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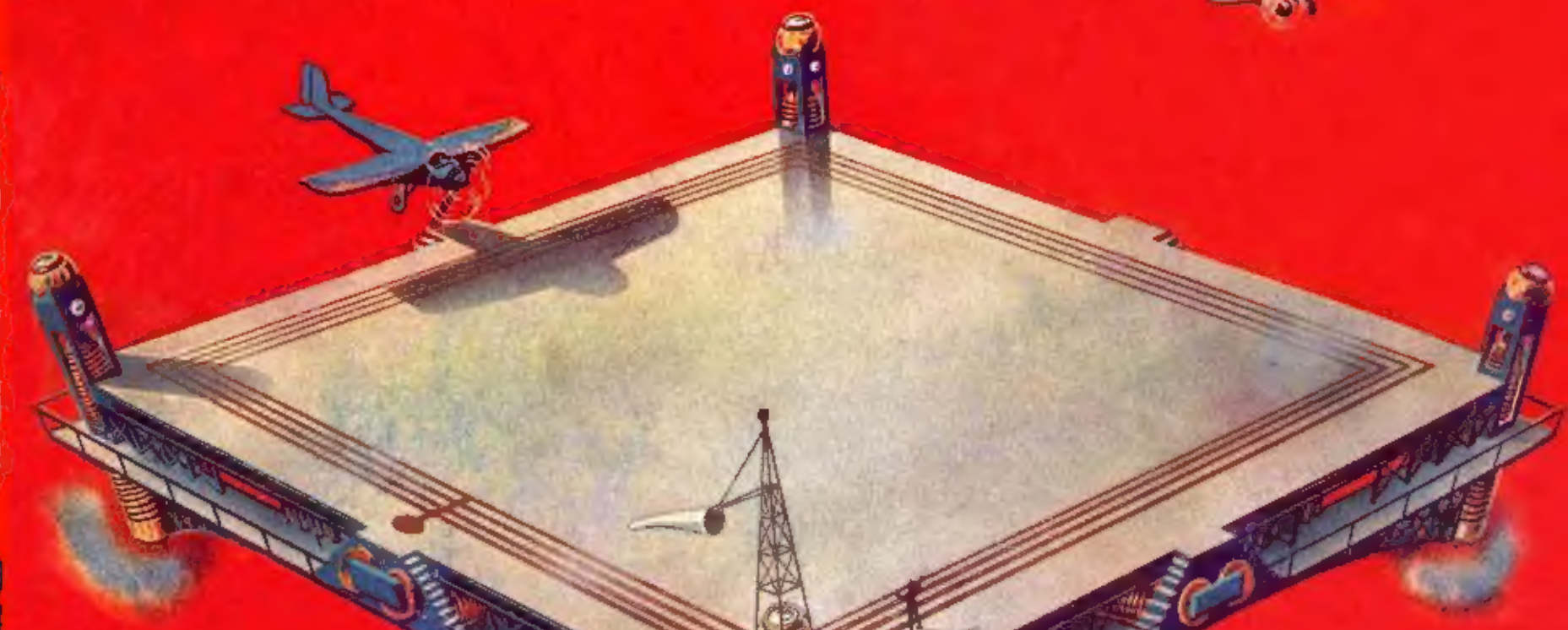


ISLANDS IN THE AIR

BY

LOWELL H. MORROW

AIR WONDER STORIES
JULY 1929

VOL. 1. No. 1.

Science WONDER Stories

Mechanics Dramatized!

Stories with a Scientific Background

Interplanetarian Trips, Space Flyers, Talking to Mars, Transplanting Heads of Humans, Death-Rays, Gravity-Nullifiers, Transmutation of Elements

TABLE OF CONTENTS IN THE JUNE ISSUE

THE REIGN OF THE RAY
By Irving Lester and Fletcher Pratt

THE DIAMOND MAKER
By H. G. Wells

WARRIORS OF SPACE
By James P. Marshall

THE MARBLE VIRGIN
By Kennie McDowd

THE THREAT OF THE ROBOT
By David H. Keller, M.D.

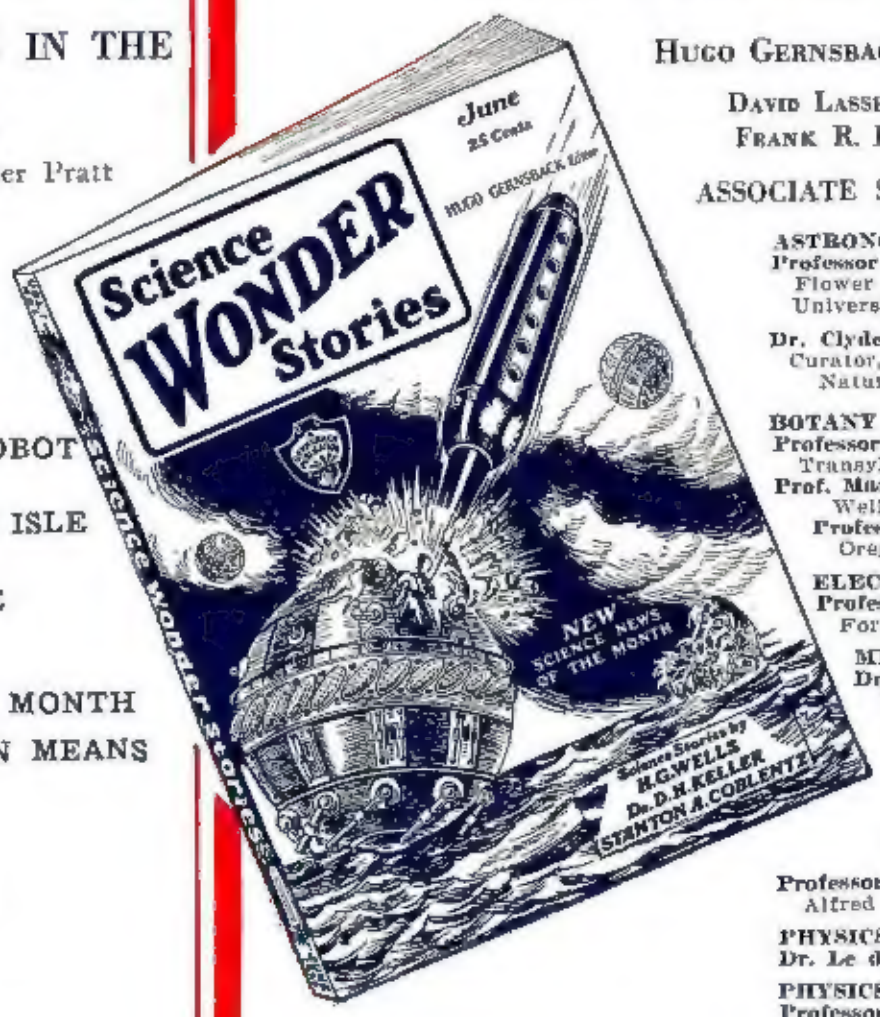
THE MAKING OF MISTY ISLE
By Stanton H. Coblentz

WHAT IS YOUR SCIENCE KNOWLEDGE?
Science Questionnaire

SCIENCE NEWS OF THE MONTH

WHAT SCIENCE FICTION MEANS TO ME
Prize Contest Letters

THE READER SPEAKS
Letters from Our Readers



100 pages, 4 color cover and many illustrations by artist F. R. PAUL

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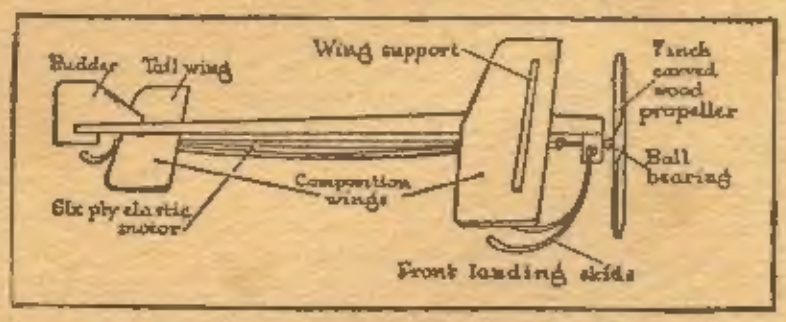

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Table of Contents
July

THE ARK OF THE COVENANT
(A Story in Four Parts) (Part I)
By Victor MacClure 6

ISLANDS IN THE AIR
By Lowell Howard Morrow 32

THE BEACON OF AIRPORT SEVEN
By Harold S. Sykes 42

THE BLOODLESS WAR
By David H. Keller, M.D. 52

MEN WITH WINGS
By Leslie Stone 58

WHAT IS YOUR AVIATION KNOWLEDGE?
Aviation Questionnaire 89

AVIATION NEWS OF THE MONTH 90

THE READER AIRS HIS VIEWS
Letters from Readers 94

On the Cover

this month is illustrated the story "ISLANDS IN THE AIR," by Lowell H. Morrow. Our own artist, F. R. Paul, has cleverly portrayed in his inimitable style what one of these future aerial islands will look like. You may be certain that science will conquer gravitation sooner or later, and when that moment comes, you may rest assured that we will have islands like these, floating freely, suspended above our cities and important aerial crossings. They will be used not only for the regulation of air traffic, but for making emergency stops and to allow passengers to change from local to express lines without ever descending to the surface of the earth.

NEXT MONTH

THE ROBOT MASTER, by O. Beckwith. When man gets drunk with the knowledge of his power, the lust to exercise it unwisely often becomes an obsession with him. If, in addition he is a great inventor of immense robot flying machines, the world may well tremble. This story is full of suspense, excitement and contains a mad dream that was greater than anything Napoleon ever dreamed. Don't miss it.

BEYOND GRAVITY, by Edward Earl Repp. Here is a science fiction aviation story, par excellence. In many ways it is remarkable—for the situations the characters find themselves in and the ingenuity which is used to save them. Aviation a hundred years hence is dealt with in this romance of the air, which for sheer daring of construction, alone, deserves special mention.

THE ARK OF THE COVENANT, by Victor MacClure. In the second installment of this classic of air stories, the author shows us the power that a new invention can possibly exert upon humanity if the inventor chooses to exert his will. But there are inventors who invent for the good of humanity and others who only seek destruction. In the present installment, you will quickly find out which is pictured here.

THE PLANET AIR RULER, by Edward E. Chappelow. Here is a most exciting and interesting air story. This well-known author has a knack of giving us science and adventure in large doses, and at the same time, he knows how to keep up the excitement from page to page. Once you have read a single page of this excellent story, we feel sure that you will not be able to lay down the book until you have finished it.

AND OTHERS

AIR WONDER STORIES is published on the 10th of the preceding month. 12 numbers per year, subscription price is $2.50 a year in United States and its possessions. In Canada and foreign countries, $3.00 a year. Single copies 25c. Address all contributions to Editor, AIR WONDER STORIES, 96-98 Park Place, New York. Publishers are not responsible for lost Mss. Contributions cannot be returned unless authors remit full postage.
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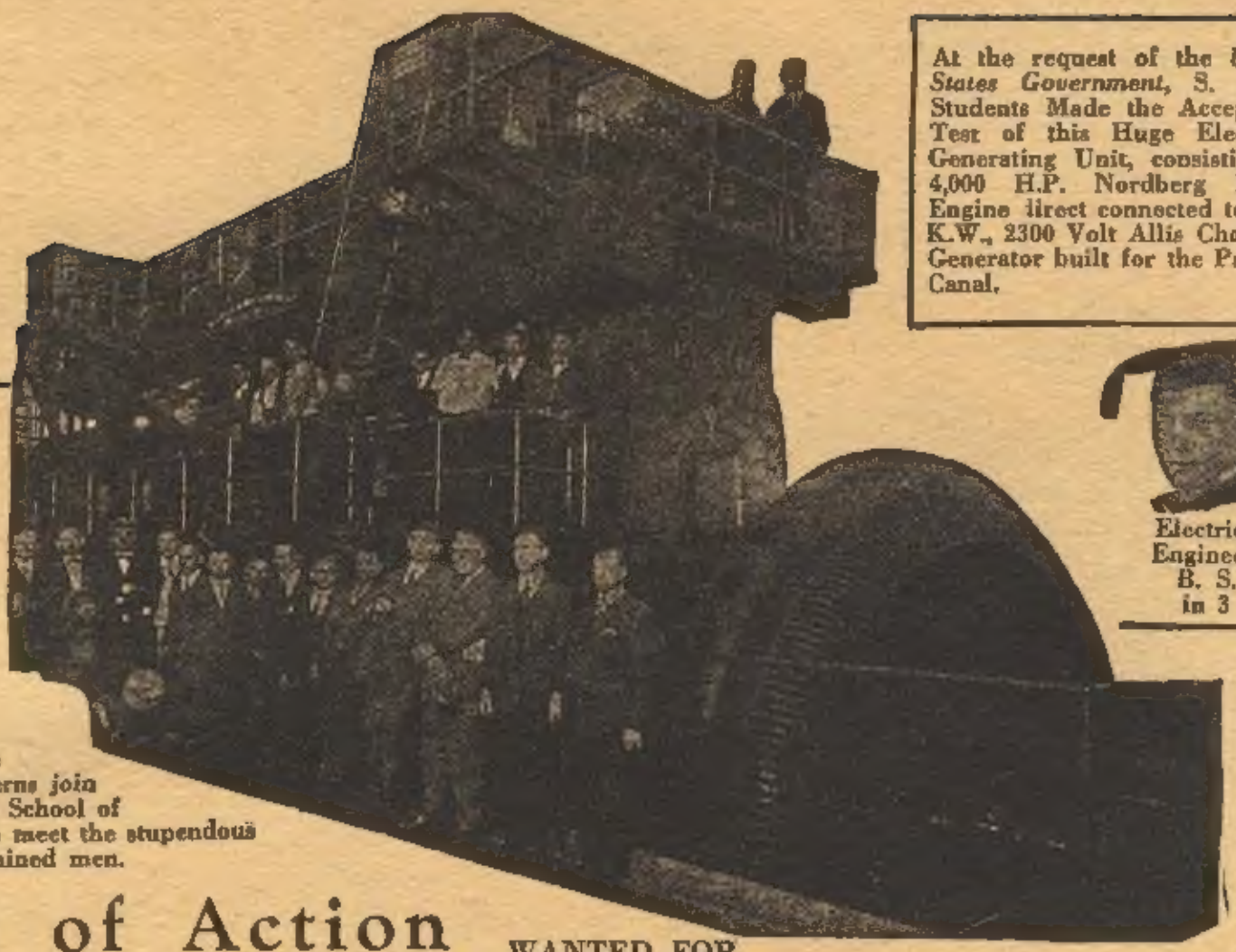

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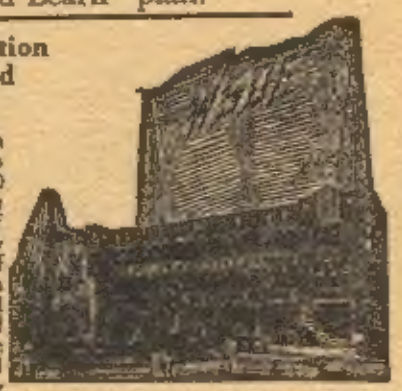

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VOLUME 1
No. 1

AIR WONDER • STORIES

JULY
1929

. . . . . *The Future of Aviation Springs from the Imagination* . . . . . .

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Editorial, Advertising and General Offices, 96-98 Park Place, New York, N. Y.

"AIR WONDER STORIES"

By HUGO GERNSBACK

AVIATION is no longer a new thought in literature. Over a dozen such magazines testify to this. But practically all of these magazines are of the purely "Wild West"—world war—adventure—sky busting type.

AIR WONDER STORIES imitates no other magazine in print, rather it pioneers into new and higher realms, yet at the same time into a field that is increasing in popularity every year.

Briefly, AIR WONDER STORIES will present SOLELY flying stories of the future, strictly along scientific—mechanical—technical lines, full of adventure, exploration and achievement.

Years ago, Edgar Allen Poe wrote his immortal "Unparalleled Adventure of One Hans Pfaal," as well as "The Balloon Hoax." Later, the illustrious Jules Verne gave the world his "Five Weeks in a Balloon." Still later, H. G. Wells startled us with his incomparable "The War in the Air." All of these famous stories, it should be noted, fall in the class of scientific fiction; *they are all dramatized mechanics of the air.*

Thirty years ago, a famous man of science and a great mathematician proved mathematically, that an airplane—a heavier than air machine—was a scientific impossibility. Yet airplanes flew before he died. Where will aviation be 30 years hence? In 100 years? In 1000 years? AIR WONDER STORIES gives that answer in an unmistakable manner. The reason is that the authors who contribute to this magazine are all trained in science and mechanics. They are the prophets who will mirror the future of aviation better than the best aeronautical authority.

Engineers and pure scientists are too bound by conventions and far too practical and cautious to look far into the future. They do not as a rule risk their reputations by making "inspired guesses." Your science fiction author knows no such restraints. Take Jules Verne for example. His "Five Weeks in a Balloon," though deemed impossible at the time it was written, has long ago become an actuality, yet he was bitterly denounced and ridiculed when he first published it. When we read it today, it sounds hopelessly tame. Yet only 66 years intervened since he wrote it; which again proves that today's scientific "pipe dreams" are tomorrow's actualities.

AIR WONDER STORIES, then, enters into this new land of fiction, convinced of the tremendous possibilities of *future* aviation.

Having been closely identified, as a publisher, with scientific publications of a popular nature for over 25 years, I may be pardoned in believing that I will succeed in making this new magazine the greatest and most popular air fiction magazine in its field.

As creator and editor of such pioneer publications such as "MODERN ELECTRICS," "THE ELECTRICAL EXPERIMENTER," "SCIENCE & INVENTION," "RADIO NEWS," "AMAZING STORIES," "AERO MECHANICS," "SCIENCE WONDER STORIES," "RADIO-CRAFT" and others, I believe I am qualified to do the new magazine full justice.

I am most happy to announce that I have secured the full and enthusiastic co-operation of a number of well-known and outstanding science fiction authors, who have agreed to write for the new magazine.

And I am particularly proud and happy to present to the readers of AIR WONDER STORIES the very distinguished aeronautical educators who compose the science-aeronautical talent of our editorial board.

As associate editors, these well-known Professors of a number of leading universities and institutions, will carefully scrutinize all manuscripts in AIR WONDER STORIES before they are printed, with the object to prevent gross scientific-aviation misinformation from reaching our readers.

For while no man can predict how far aviation will actually advance in the next 100 or 500 years, still the limitations of nature's laws will prevail, then as now. So while an author may have a poetic license in letting his imagination soar skyward, he should keep away from pseudo-science and pseudo-aviation. And he should not picture the impossible as far as scientific principles and laws are concerned.

Our editorial board, then, is a guarantee to our readers that the scientifically impossible will not be published in AIR WONDER STORIES, but that, on the contrary, the educational motif will always be uppermost in our minds. We must instruct while we entertain.

For the future of aviation springs from the imagination! And by translating the product of imagination into actuality, the evolution of aviation will be hastened.

And further as an innovation for a magazine of this kind is the department entitled "*Aviation News of the Month.*" This gives a complete resumé of the month's advances in aviation. Over 40 magazines and other sources are consulted in the compilation of this department. It gives a real educational digest not obtainable otherwise in a single publication. New aviation inventions, patents, new air-fields, improvements of airplanes and airships, etc., are discussed intelligently every month.

From the hundreds of enthusiastic letters that come pouring in, I know AIR WONDER STORIES will be one of the most discussed magazines in America. Science Fiction as it will be published in AIR WONDER STORIES already is a tremendous force in America. Everyone talks about aviation and science. This type of story is constantly discussed in the classroom by educators. Teachers encourage the reading of this fiction because they know that it gives the pupil a fundamental knowledge of science and aviation. Likewise parents insist that their children read this type of fiction in preference to the debasing and mischief-creating sex and crime stories.

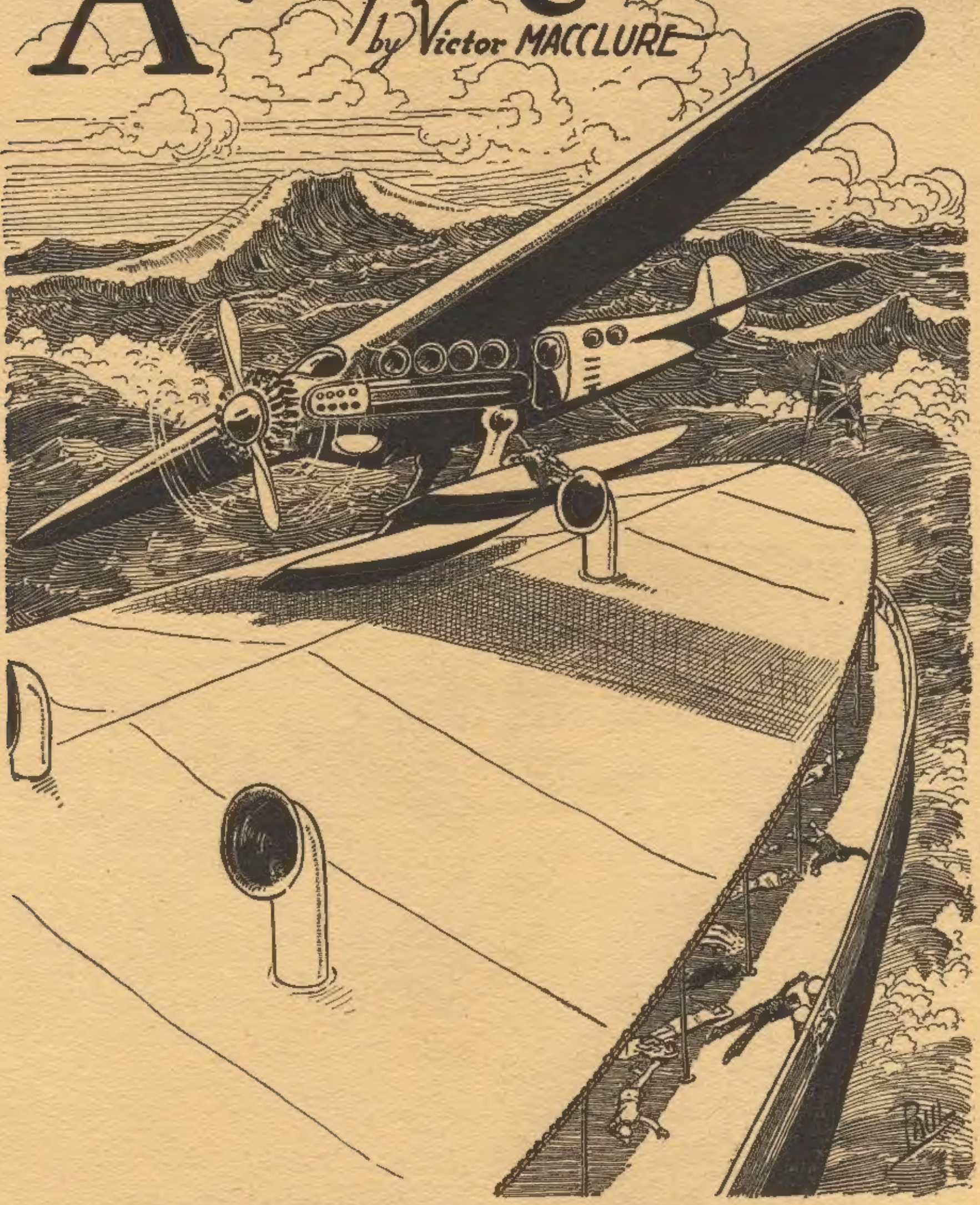
I therefore dedicate this new magazine to the air-minded, to the progressive air enthusiasts not only of this country, but of the entire civilized world, who are not afraid to peer ahead into the unknown.

I am particularly addressing myself to that vast army of young and red-blooded men and women who believe that aviation will change the face of this earth—who believe that the future of our country lies in the air—and finally those who believe and know that it is first, last and always the great and tremendous force of IMAGINATION that is the Key to the future progress of Aviation.

With such readers AIR WONDER STORIES can and will accomplish wonders.

The ARK of the Covenant

by Victor MACCLURE



We landed with a grinding shudder, then keeled over sideways as if we'd never right. I had quite made up my mind we were going to crash over on our back to the sea below.

CHAPTER ONE

The Coming of the Mystery

A HAND was laid on my shoulder. I woke up. My father stood by my bedside, with that in his look which drove sleepiness out of me and brought me quickly to my feet beside him.

"What's the matter, dad?"

"The bank, son," he said, quietly—"the bank has been robbed. How soon do you think you could land me at the Battery?"

It was all I could do to refrain from spluttering out a string of questions. Had it not been for the grimness of the old man's expression, I should have thought then that he was walking in his sleep. But there was no mistaking that he was clean awake and in deadly earnest.

What I did was to put a hand under the pillow for my watch, I said nothing. I was not going to be beaten in coolness by my own father, but I did some quick thinking. My roadster was in the garage, so the five miles between the house and my hangar on the beach was a small detail. I had to decide at once if I should risk taking the old man across Long Island on the only machine I had ready for the air that chilly morning. This was an ancient seaplane, built in 1928, and now held together by pieces of string and tin tacks. In a series of experiments on stability I had pared her wing area down to the absolute minimum, and she asked for a deal of handling.

As I reached for my watch, I kept my eyes on my father's face. It was as placidly grim as could be, but I saw that he was betting on me to get him over to his old bank in quick time. So, almost before I had seen on my watch that the time was half past six, I had decided to risk his neck and mine on the ancient bus.

"Get the hangar on the phone, dad," I told him. "Ask Milliken to warm up the *Sieve* right away, and have her run out in less than ten minutes. Then put on some thick clothing, while I get into overalls and pull out the roadster. You'll find me outside. I'll have you at the Battery inside forty minutes."

The old man took his orders like a soldier.

"The *Sieve*," he repeated. "Right!"

Off he went, while I got into my flying kit. I went down to the the garage, and had the car out on the drive with her engine turning over prettily before he joined me again.

VICTOR MACCLURE

"Good man, that mechanic of yours, son," he grunted in approval; "doesn't waste time in talk—"

Once out on the turnpike, I let the car out full and we were alongside the hangar well inside of ten minutes. Milliken already had the old seaplane in the water, and when I saw anew how stubby her wings were, I had to stifle my misgivings all over again. She looked terribly inadequate to carry the only father I have. But before I had time to express my qualms, even if I had wanted to, the old man was out of the car and down on the jetty. With a nod to Milliken, he climbed into the cockpit, and there was nothing to do but follow him.

Milliken swung the propeller to contact, and I knew at once that, however patchy the structure of the *Sieve* might be, her heart was as sound as ever. The note of her engine was good to hear. When I felt the strain was right, I dropped the signal to the mechanic. Milliken released the patent mooring, and we shot out to sea with a muttered "fluff-flufter-fluff!" from the floats, as of big pebbles skimmed over the water. Then I pulled the stick, and the old bus took to the air like a bird. I let her climb east just far enough for the turn, then swung her into a dead course for the New York Battery, a hundred and thirty kilometres away.

It was the first time my father had flown with me, though I must say he had always shown an interest in my aëronautical research work and, before the sale of a few patents of mine had made me independent of him, had always been ready to dip his hands deep in his pockets to help me. In the years since the European War, where I suppose as a cub flyer I got the flying germ into my blood, my father had never tried me out as a pilot, and I had often wondered what opinion he had of me. But as I thought, that gray March morning, of the certainty with which he had de-

HERE is, perhaps, the greatest air story that has yet been written. The editor, who has personally read, as near as is humanly possible, every important air story of a scientific nature, has still to find a single one that excels "The Ark of the Covenant."

Here is a real story of the air that bristles with adventure, good science, tremendous suspense, and excellent construction. The author is always a step ahead of you and you are never permitted to guess in advance just what is in store for you. There is nothing contained in this story that could not come true at the present or the near future. It is one of these stories that grows upon you as time goes on, a story that you will wish to recommend to your friends for a long time to come.

As extraordinary as the story is, the author himself—who by the way is Scotch—comes pretty near matching it.

He was wounded in 1915 during the World War in Gallipoli by a bullet which lodged near his heart, and, strange to say, it remains there to this day, without in the least interfering with the author's literary career.

pended on my help and of the way he had gone about the business, I couldn't help growing chesty as I realized how clearly he took my skill for granted.

As soon as we were properly set on our course, I took a look back at the old fellow. He was sitting humped up in the passenger's seat, with only his eyes and the tip of his nose showing through his voluminous wraps. A grim calm was eloquent even in those features. He caught my eye when I looked back at him, and he nodded serenely. I don't know how it was, but it dawned on me just then that I had a large-sized affection for my sometimes irascible sire, and I turned my attention to getting all I could out of the old bus for him. We flattened out to a nifty two hundred and fifty kilometres the hour.

I hadn't wasted any of the old man's time by asking him questions, but I'll confess that the robbery of the bank had roused in me a lively curiosity. The roar of the unsilenced engine put all conversation clean out of possibility, and I did not want to have him unwrap in that cold rush of air to put on the headpiece of the phone. So I had to keep mumchance and speculate about the affair.

There was enough material for speculation. The premises of the National Metallurgical, of which my father was president, were generally believed to be absolutely burglar-proof. The building on Broadway was comparatively new. Its safes and strong-rooms were supposed to be the last word in appliances for the thwarting of cracksmen, and the president was immensely proud of them. Altogether, I came to the conclusion that this sudden flight towards the Battery and Wall Street was the result of some swindle by a forger or by a dishonest official, rather than of burglary. I knew it must have been something big to put the old man in such a hurry, but I was far from realizing then, with the old *Sieve* flattened out and roaring above the misty trees of Long Island, just how big a thing I was headed for. My father has since admitted that at the time his conception, too, of what the future held, came little nearer the truth than my own.

I must explain at this point in my story that what I write in the following pages can only be a personal version of a bewildering run of events that have since become history. I had the luck to be close to many of these happenings from the start—as the world saw it—and also to be in at the death. This must be my excuse, if any is needed, for trying to put together a connected story of what befell in a quick-moving and epoch-making period of six months. Nobody will deny that for this space the world was badly scared, and, now that the terror is past, and everybody breathes freely again, I can do no harm by telling what I know.

I may even do a little good. The flight with my father that chilly Monday morning in March was the beginning of my participation in a conflict that for clash of intellect, mystery, romance, and far-reaching consequences has made the World War of 1914-18 look by comparison like a rough-and-tumble in a back street.

As we droned along above the island, I had little but my thoughts to occupy me. The seaplane was behaving splendidly, and I had none of the trouble I had expected with her, if I leave out a little manoeuvering that came when we hit a pocket in the air. In about twenty-five minutes the Woolworth Building loomed up on the horizon, dead ahead, and I swung a point or two south, so that its shape fell on the starboard bow. Next minute I had circled and was dropping northerly into the upper New York Bay, with Battery Park in front. Under forty minutes after my father had wakened me I was landing with him at the seaplane jetty west of the park.

There was quite a fleet of planes round the landing-stage, mostly the bronze-painted machines of the water division of the Air Police; speedy, sinister things they were, but trim enough to make my old boat look more like her nickname than ever. I had never seen so many police machines together at the Battery landing stage before, but I imagined they were there merely upon their lawful occasions.

The pierman, an old friend of mine called O'Grady, gave me my mooring ticket and would have held me inconveniently in gossip, but I shook him off and legged it up Battery Place in pursuit of my father, whose impatience forbade him to wait for me. It was lucky I overtook him, because a cordon of police had been drawn around the Wall Street area, east and west from Trinity Place to Pearl Street, and, I presently discovered, north and south from Beaver Street to Liberty Street. The police saluted the old man and would have stopped me, but he snapped one word at them, whereupon they stepped back and let me pass. The presence of so many policemen at such a distance from the bank made me begin to think that the robbery was something of an affair.

A Startling Tale

WE went right up Broadway, my father and I. As I walked behind him, I realized again his great bulk and, tall as I am, I felt for all the world like some faithful but skinny pup tagging at his heels. All about me were clusters of foot police round the doors of various buildings. I wanted to stop and find out what they were doing on guard so far away—as I thought—from the scene of the robbery, the National Metallurgical being up Broadway at the corner of Liberty Street, but I hung close to my father in case I were challenged. We arrived at the door of the bank.

The squad of policemen who were strung across the doorway made an opening for the president and myself, and I followed him right into his room. We were immediately joined by Jaxon, officer in charge of the armed guard which was mounted every night in the bank. Poor Jaxon looked like a man who had just come out of a bout of fever. He was in a daze.

"Well?" the old man snapped.

Jaxon simply lifted his arms and let them drop in a gesture pitiful in its expression of helplessness—especially pitiful since the man normally was alert as a terrier and sharp as a needle.

"I don't know what to say, Mr. Boon," he gulped. "I just can't understand it."

A quick look at the man made my father suddenly grow kind.

"Sit down, Jaxon," he said. "Let's get to the bottom of this. When and how did you first realize that the bank had been robbed?"

"About five o'clock, Mr. Boon. I—I—woke up—"

"You woke up! Do you mean to tell me you had been asleep?"

"I wish I could say—I musta been doped—me and all the other five guards——"

"What! All six of you doped?"

"All of us, Mr. Boon," Jaxon said, sullenly. "And what's more—it looks like everybody in the district has been doped——"

"Rubbish!" the old man barked. "Talk sense, if you can, Jaxon. Who could dope a whole district?"

"I wish I knew—and I am talking sense, Mr. Boon. As far as I can make out, everybody between here and Battery Park was asleep between three and five this morning, Yes—and what's more—this is not the only bank that's been robbed. The Sub-Treasury, the Guaranty Trust, the Trade Bank, and the Dyers' National—they've all been entered. All the lot of them——"

Jaxon slumped forward in his chair. The old man shot a look at me and signalled to know if I thought the guard was mad. I shook my head. Way back there on the Argonne I had seen infantrymen get into the same sort of daze after a punishing fight. Jaxon had all the symptoms. He was sane enough, but a beaten and bewildered man.

Just then a detective came in, a headquarters man, and with him was the bank's own investigator. They both confirmed what Jaxon had said about the other banks, and both the detectives were as bewildered as poor Jaxon. They could make neither head nor tail of the affair, and when they had both finished, the man from Headquarters could only sit and shake his head, letting out staccato laughs and curses.

I was beginning to imagine I was still in bed and dreaming it all, and I could see that the old man, for all his poker face, was getting the same feeling. He got up quickly from his chair and started off to look round the building

It was plain that entrance had been made into the bank through one of the windows next to the main door. A section big enough to pass a full-size man had been lifted clean out of it, and the steel astragals round the panes had been cut through as if they had been strips of cheese. I did not need the detectives to tell me that the cutting had been done by powerful oxyacetylene. I could see that plainly enough when I examined the edges of the removed section, which had been neatly set against the wall on the sidewalk.

Jaxon led the way to the door of the great vault. When the president saw what had been done to this elaborate piece of mechanism he grunted as if somebody had hit him.

There was a neat aperture cut in the central panel of the door, sufficient to let anyone step into the vault without trouble. The flame had sheared right through the machinery of the complicated locks, and there had been no attempt to find the easiest line. The hand that had done the work had simply cut out a chunk from the door, four square, and had not turned aside even for the gun-metal wheel handle. This had a segment shorn clean from it, and the severed fragment was lying on the floor. It was mighty good work even for oxyacetylene.

Without a word of comment, my father stepped into the vault by the opening, and I followed him. The compartments inside had all been broken open, and the floor of the vault was littered with bonds and securities that seemed to me to be worth stacks of money. I saw a pained expression creep into the old man's face, and I permitted myself the first question that morning.

"Bad?" I whispered.

"Bad!" he repeated soberly. "Lord, son—there will be a lot to do before we get over the badness of it!"

I always had thought my father would make a game loser, but the way he took the disaster filled me with admiration for his self-control. I couldn't say much to him then, for he is not the man you can readily offer sympathy to in words. I just sort of put my hand under his arm and gave it a bit of a squeeze, and I remember how it flashed on me that his biceps would have been a credit to a good heavyweight. The old man had a chunky brown face that had the appearance of having been modelled by a vigorous thumb, and had it not been for his thatch of silky white hair he would have looked, at the moment in the vault, for all the world like a bronze statue in a business suit. His fighting chin went up, and he gave me a short nod.

"It will take me some time to estimate the damage, Jimmy," he said. "Just take a look round the district, will you, and bring back as accurate a report as you can of what has really happened. These fellows are too rattled to please me."

"Right," said I, and left him there.

A Little Investigation

THE first thing I did when I stepped from the vault was to get Jaxon into a corner and ask him about the doping idea. I shot questions at him, but got little out of him beyond the fact that from three till five o'clock he had been oblivious of everything. He had waked about five to find himself sitting on the floor of the reception hall with his back to one of the partitions. He had no memory of falling asleep, nor of sitting down. It had been as if those two hours had been cut clean out of his life.

The other guards told much the same story. The lack of detail in their accounts was maddening, and for a minute or two I began to consider the whole thing a frame-up. But, beside the consideration—if the report of the whole district being doped were true—that the frame-up was unparalleled in the history of crime, the guards were all too sincerely bewildered to be lying. I could see that they were not acting a part, and that poor Jaxon, in particular, thought himself disgraced forever. He was heartbroken.

Jaxon had been with the bank for a quarter of a century, and his reputation for honesty and loyalty was unimpeachable. More than once his faithfulness had saved the bank from loss, and indeed there had been one occasion when he had been wounded by safe-breakers before he shot two of them in defense of his charge. The bank had presented him with a fine big gold watch, of which he was tremendously proud. He believed it kept better time than any clock in the State Observatory.

I mention Jaxon's watch because through it I discovered a curious thing. I was setting out to do the round of the district, when I found that I had left my own watch behind me. I looked at the clock in the main hall, and it seemed to me to be slow.

"Is that clock on time, Jaxon?" I asked.

"Ought to be," he replied. "I checked it with my own watch last night. Let's see——" And he took his famous time-piece from his pocket. He pulled off the chamois cover in which he always carried it.

"Well, I'm dodblasted!" he exclaimed, as he looked at the half-hunter face. "What in hell's happened to my watch?"

The gold case was tarnished to a dull brown-green. From the look of it, one would have judged the watch to be a brass one that had lain for days on a sea-beach. Jaxon was bewildered, but I'll admit that my astonishment—if I did not show it—was even greater. From some little training in chemistry I could think of no reagent, even in the most up-to-date laboratory, that had such an effect on gold. The incident set me thinking, and before I had got into the street I had discovered that the gold leaf, so plentifully used in the interior decoration of the bank premises, had tarnished much in the same way. I said nothing about this additional discovery to Jaxon. I kept the fact to myself, and left him looking round for polishing material.

As it chanced, the first person I met on Broadway was Dick Schuyler, who had been in the same flying squadron as myself during the European War. He was, and is still, a commander in the sea division of the Air Police, so I grabbed him to act as safe-conduct for me round Wall Street.

"What do you make of it, Jimmy?" he demanded straight off. "A scientific feller like you should have a theory."

"I don't know a thing about it yet," said I. "You cops should have more information than I have. Is it right that these other banks have been robbed?"

"The Subtreasury, the Trade, Dyers' National, and the Guaranty," he said, making most of the mouthful. "There's a report, too, that the Post Office has been visited as well." The extent of the affair was beginning to impress me. Dick Schuyler has a cheery, careless manner, but he is not given to speaking without the book, and this confirmation brought me to a realization of what the morning's outrage involved.

"But what were the police doing all the time?" I demanded.

"Sleeping, as far as I can make out," he said dryly.

The details of the affair, as Dick told me them, were incredible. The first intimation that anything was wrong in the Wall Street district came when a policeman recovered consciousness to find himself lying on the sidewalk. He thought he had fainted or suddenly dropped into sleep, and in either case was afraid of losing his job, for they want neither sluggards nor heart cases on the force. He got to his feet, glad that he had not been discovered by his patrol, and he began to hurry along his beat. He had not gone far when he fell over the feet of somebody who was sprawled across the steps in a doorway, and he stooped over to investigate. He found it was his own inspector, and he had no sooner laid hands on him than the sleeper awoke. Dick did not go into details of what the cop said to the inspector, or vice versa, but it must have been mighty interesting. Anyhow, the pair joined forces and set off round the district.

Green Gold

THEY were half-dazed, the two of them, and to their badly working intelligences it seemed as if they had suddenly found themselves in a city of the dead. All along the sidewalks and in doorways, even in the middle of the streets, sleeping men were lying at intervals. Dick Schuyler wanted to bet me that there never had been as bewildered a pair of men in the history of the world as those two cops, but I would not take him.

It is difficult to bring things together in their right sequence. What I gather from the many accounts I got that morning is that suddenly the police headquarters became noisy with repeated telephone calls, as bank after bank reported it had been robbed. Squads of police were rushed into the area at once, but when they arrived the thing was over and the thieves had got clean away. I remember wondering what would have happened under the old system of direct alarms to police headquarters. But this system, of course, had been largely discarded after the scandal of 1930, when the police were proved to have been in collusion with the crooks who effected the big robbery of the Dyers' National. It would have been interesting to see what would have happened to the police if they had been rushed into the district during the unaccountable two hours.

The other four banks were in a like case to the National Metallurgical. For two hours in the morning the guards and watchmen had been asleep and could tell nothing. Something in the nature of oxyacetylene had been used to effect entrance to all the buildings concerned, and their strong-rooms had been cut open by the same means. The thieves had got away with an enormous haul while the district was fast aleep.

I got much of this information from Dick Schuyler as we were walking along, and I had the chance to confirm a lot of it first-hand. The neighbourhood now was filling rapidly, and automobiles and motorcycles were beginning to be frequent in the street. Newspaper men were everywhere, eagerly searching for information, but, beyond the one central inexplicable fact of the mysterious two hours, found little data for their write-ups. One excited little reporter rushed up to Dick and myself, and danced round us, waving a notebook.

"Say!" he yelled. "What do you know about this, eh? Were you eye-witnesses?"

"As far as I can see," Dick told him, "eye-witnesses are just what there aren't."

But he shot a quick account of what he had heard to the little man, and advised him to get after the foot police and the watchmen of the banks. The little man wanted nothing so much as a reasonable theory to explain the success of the raid, but we wanted that just as much as he did, and he went off with an openly exhibited contempt for our lack of imagination.

The further we went, and the more information we acquired about the affair, the thicker grew the mystery of it. The central fact was this—and all else was relatively unimportant in the face of it: that for two hours of the morning, between three and five, the financial district of New York had been peopled by men who, whether doped or otherwise rendered unconscious, might to all purposes have been dead, for all they saw. There was no clue to the identity of the gang that had contrived to break into five of the greatest banks in the city and get away with a fortune in gold and easily negotiable scrip. I heard that a finger-print had been found in one of the banks. But I imagined it would need more than that to lead to the recovery of what was then reported to be a staggering loss.

I had a talk with one of the policemen who had been in the district during the lost hours. In a general way I got nothing that was fresh out of his account, but he was a big Irishman who made me laugh with the unconscious humour that ran through his conversation, and I spoke with him long enough to get quite friendly with him. I was leaving him, to turn back and see how my father was faring, when suddenly I remembered something.

"By the way," I said to the big fellow, "do you happen to have about you anything made of gold—a watch or a trinket of any sort?"

He grinned sheepishly behind a big hand.

"I've a bit of a locket," he said, "with a photy av the girl in ut. She makes me wear ut next me heart. Don't laugh, an' I'll show ut to ye——"

I gave him my promise not to laugh, and he produced the trinket from under his tunic. He was much more surprised than I was to find it tarnished to a dull brownish green.

CHAPTER TWO

Clues and False Leads

IT WAS around quarter past eight o'clock when I got back to the National Metallurgical I found it difficult to realize that only an hour had passed since I had landed with my father at the seaplane jetty on the west side of Battery Park, and I had a feeling that the time should have been close to noon at least, for the hour had been crammed with incident and impression.

A number of the bank executives had arrived, and the place already had a flustered air of activity. The chief accountant was with my father, and I judged by the look of him that he was a very scared man. Apparently he and the president had been calculating the bank's losses, for as I came into the room the old man drew a firm line under two rows of figures he had written on a small piece of paper.

"A good haul, Risbridger," my father was saying casually. "Two hundred and fifty-three thousand, five hundred dollars in gold. Two hundred and thirty-four thousand, seven hundred in securities. But God knows they didn't take all we had. You had better see about broadcasting the descriptions and numbers of the securities, and inform the police. If the thieves have not succeeded in getting out of the country, we may get a line on them, should they attempt to dispose of the scrip. See to this at once, will you?"

The white-faced official scurried away, glad to have something to occupy his mind, and my father turned to me.

I told him everything I had picked up, and he listened without comment until I had finished.

"M'm," he said. "That's a queer thing about the gold tarnishing. What do you make of it, son?"

"I don't know quite what to make of it," I told him. "My mind somehow connects it with whatever was used to dope the watchmen and the police. The stuff would have to be distributed in such a way that its fumes could be breathed. The whole affair has such unusual features, it might even prove that if we were to discover what had sent everyone to sleep, we might land on the thing that tarnished Jaxon's watch and the policeman's locket. I don't know of anything that has such an effect on gold, nor of anything capable of producing the anaesthesia. I'm inclined to think some sort of gas was used. The first difficulty we're up against is that none of the sufferers were conscious of even the slightest smell."

"Whew!" my father whistled. "A new gas, eh? If you're right, Jimmy, we're up against a big thing. When a gang of crooks can put the whole of the Wall Street district to sleep and get away with it, can you prophesy where the game finds its limit?"

"It opens up limitless possibilities," I agreed.

"There's no saying where this morning's work will end," the old man mused. "As it stands, if the other banks have been as easily entered as we have, there's the makings of a fine old panic."

"If there's going to be ructions, dad—don't you think you'd better meet them in comfort? What about a bath and breakfast?"

The old man surprised me by letting out a sudden little laugh, with a queer note in it, as if some hidden chord in his memory had been struck.

"You're like your mother, Jimmy," he said, after a pause. "You have her fair hair and grey eyes, and when you said that—I could fancy it was she who spoke. You see, son, life was pretty full of ructions in the old days, and you said the very thing she would have said when trouble was brewing. You don't remember your mother?"

I shook my head. My mother died when I was an infant, and I had never created any definite picture of her, to a great extent because my father seldom spoke of her. I expect it was that he missed her too much. She had been dead close on thirty-five years, but I could see, even then in his presidential room, how much she still meant to him. He looked at me queerly, and I have never seen him so softened either before or since.

"No," he said slowly. "You were only a very little fellow when——"

He broke off and lifted his shoulders in a sigh.

"You're right," he said. "Breakfast's the idea."

I anticipated that by this time there would be a jam in the subways and on the street cars, and as I wanted him to have as little physical exertion as possible, I telephoned for an automobile. While we waited my father issued instructions for carrying on in his absence.

When the car came, we rode uptown through the rapidly filling streets to a quiet hotel where he would not be recognized, and we both had a bath and shave before breakfast. I was wishing now that I knew enough about banking to stand by

during the crisis I felt was imminent; not that I fancied my father could not stand alone, but I think my wish came largely out of the new realization of how much I cared for the old man. I wanted to be of some assistance, but I did not know just how. I spoke to him about it as we were finishing breakfast.

"Look here, dad," I said. "I want to stand by. I can be of no use to you on the banking side, but I could be a fairly good watch-dog. If I can do anything to keep troublesome people off you, or if I can run errands or attend to the commissariat—just say the word. I'll do anything I can."

"I know that, son," the old man smiled, "but I'm well supplied with watch-dogs and messengers, who know my ways. No. Listen. I'll give you better than that to do. My hands will be full of the complications that are bound to rise from this raid on the banks, and I won't have time for anything else. In that tarnishing of the gold idea you've hit on something that maybe will give you further ideas, and I'd like you to follow up your theory of the gas and see what it leads to. You're an engineer, and you'll attack the problem from a different angle from that of the average detective. You can have a free hand in the matter of expense."

The old man's suggestion almost took my breath away, and I fancy my face got red. I must explain that while my father and myself had been good enough friends up to this, our ways had lain very much apart. He was devoted to his banking business, and I was immersed in aeronautical research. There had been times when we did not meet for months, and when we came together again it had simply been, "Hullo, Jimmy!" and "Hullo, dad!"—pretty much as if we had parted overnight. I knew all right what I thought of him. What he thought of me had been another story. That he had a good enough opinion of me to hand me a job of this sort, and give me the run of his purse with it, put me in such a way that I could only nod acceptance.

"Good boy," said he. "Now here's another point. During the day you'll be free to conduct your investigations, but I shall want you to fly me into the country every evening. I'm not going to stop in town and have the telephone buzzing in my ear all night. I'll keep Hazeldene open and live there. Can you do it?"

"Do it!" I cried. "Why, dad, there's nothing I'd like better—and if at any time I should be called away on this job, you'll find Milliken a first-class man."

"That's settled then. I take it you have something better in your shed than the old seaplane you used this morning?"

"You bet. There's my own *Merlin*. Three hundred kilometres and more an hour are nothing to her. I'll have her tuned up for you right away. I can get you from the Battery to Hazeldene well inside the half-hour."

"Bully!" said the old man, and rose with a cigar going strong. "Now I must get back to the bank, son."

Some Powdered Glass

WE drove back to the Metallurgical through streets that seethed with excited humanity. Newsboys were running about, offending the ear with unlawful and raucous yells, flourishing newsbills that smote the eyeballs with their flaming scarelines. One journal, apparently despairing of adjectives sufficiently lurid to describe the reported enormity of the raid on the banks, had printed a sheet containing nothing but one large exclamation mark. Broadway was Babel. At every other corner policemen were trying to move on the crowds that inevitably clustered round each fortunate with a newspaper, and so dense was the press at the lower end of Broadway that it took two mounted men nearly a quarter of an hour to drive a path for the car through the last hundred paces to the bank door.

Once we were inside, I immediately got through to my mechanic, Milliken, on the telephone, and told him to tune up the *Merlin*. Wise fellow that he is, he had anticipated the order, and could promise to have the plane ready in a couple of hours. Next I spoke to the housekeeper at Hazeldene and arranged for the place to be kept open for my father and myself. In the ordinary way I lived in a hut close to the hangar and workshops on the beach, only joining my father at Hazeldene when he went there for the week ends. He had been at the cottage on one of these visits when the news of the robbery had pulled him out of bed for our flight this Monday morning.

I was on the point of stepping out to make what investigations I could when my father called me into his room. He had come upon an old Eastern piece of gold money which he kept as a curiosity in one of the drawers of his desk. It was not of the ordinary disc shape, but was like two little beans stuck together crosswise and turned over each other. I had seen it before as a shining piece of particularly pure gold, but now it was sadly dulled to a colour with which I was becoming familiar.

"You had better keep that, Jimmy," my father said. "I expect you'd like to have a sample of the tarnishing."

I was glad to have it, and I wrapped it in a scrap of tissue paper before placing it in an empty matchbox to keep it from being rubbed. I intended to have the tarnishing analyzed in the hope that the result would furnish some clue to the anaesthetic used by the crooks, for to my mind the crux of the whole affair lay in the mystery of the two lost hours. This was the thing I determined to follow up in the best way I could. I had no other notion of where to make a start.

When I reached the street, the crowd in front of the bank was thining before the manoeuvres of the police, and I waited in the doorway until there was room to move. In a little I was able to cross Broadway, and it was when I had reached the opposite sidewalk that a slight accident happened to me which was the means of furnishing another step in the development of my theories.

To avoid bumping into a fellow who was hurrying past on the sidewalk, I stepped short on the curb. My foot slipped and I came down on my hands. I felt my palms sting, as though I had landed on some sharp sand, but when I stood up to brush the stuff off, I saw that my skin was full of little splinters of glass. It was no conscious alertness that made me look down on the curb, but just the ordinary human foolishness that always makes a fellow turn to look when he has trodden

on a banana skin. My interest was caught by a smear of powdered glass along the curb and in the gutter—like the result of breaking an electric bulb, only bigger. There was something about the pulverization and distribution of the stuff that made me look closer still. I was suddenly taken with a notion of what the stuff stood for, and I swept a few grains of the powder together and wrapped them in tissue paper, placing the tiny packet beside the coin in the match-box. My next idea was to have a look round the outside, at least, of the other banks.

I walked down Broadway to the Guaranty Trust and, acting on the idea that was simmering in my head, I scrutinized the sidewalks and the roadway round about. I half expected to come upon another of the smears I had discovered opposite the National Metallurgical, but was disappointed. There had been, however, a fairly dense crowd all down Broadway that morning, and I was not ready to dismiss the possibility that the same sort of smear had been in the street sure enough, until the trampling of many feet had dispersed it.

By the Subtreasury, at the corner of Pine Street and Nassau Street, I had better luck. Here again the height of the curb had saved the smear of powdered glass from being completely obliterated. I took a sample of this, too, and numbered the package in which I folded it.

Next I went on down Pine Street until I came to the Dyers' National, but this time, although I worked as closely and as carefully as I could, I found no reward for my search. Remained then the last of the raided banks, the Trade Bank, and I walked round to take up my investigations there.

Right in the middle of Broad Street where it joins Wall Street, I found another sprinkle of powdered glass. Passing feet had made it very faint, but luckily the morning had been dry, and the traces left were unmistakable. I reckoned now that I had reasonable grounds on which to work out my notion, and I contented myself with picking up what I could of the powder on a finger-tip to test its nature. It had the same character as my two samples.

A Pop Added

BY this time I had four ideas firmly fixed in my head, and could not be quit of them; that the crooks had used an anaesthetizing gas; that this gas probably had tarnished the gold; that the gas, in liquid form, had been held in glass containers; and that the smears of powder outside the three banks were what was left of the containers after the release of the gas had shattered them.

These were a weirdly fanciful lot of notions, I admit, but like the rest of those concerned, I was more absorbed by the idea of the mysterious sleep that had fallen on the district during those two dead hours, than by the magnitude of the robbery itself. It was all guess-work, and probably mad guess-work at that, but at the time guess-work was about all anyone had to start from.

In any case, I thought the coincidence that smears of pulverized glass should be outside three of the robbed banks sufficiently strange to be worth working on, and in pursuit of the ideas it gave birth to I went in search of the policeman of the tarnished locket.

I was afraid he would have gone off duty, but my luck held, and I came upon him practically on the same spot where I had parted with him earlier in the morning. He had just been relieved and was going home. I walked with him up Broadway in the direction of the National Metallurgical.

"There is a point on which I'd like to ask you a question or two, McGrath," I said.

"Shoot!"

"Before you fell asleep or became unconscious this morning, did you hear anything of an explosion?"

He stopped dead in his tracks to stare at me.

"Faith—now you mintion ut," he said slowly, "I believe I did hear a bit of a pop. Nothing to startle ye, mind—just a quiet little pop, like ye'd be hearin' when a child burst a paper bag."

"Where were you when you heard this pop, as you call it?"

"Let me see, now," he mused. "I'd be standin' right foreninst th' Exchange when I heard ut."

"You didn't hear more than one?"

"I might have. But, d'ye see, ut was the sort av noise that might be comin' from the uptown traffic, and not at all the noise that would swing ye round to see what ut was."

"How long after hearing the noise would it be before you became unconscious?"

"Now ye've got me, for ut's a thing I can't tell ye," the big fellow said. "I'm told that I was asleep for two hours—but, if ye ask me, I say ut was a bare five minutes from hearin' the pop until I woke up and found myself lyin' on the sidewalk."

"After the noise, did you become conscious of any peculiar odour—even of the slightest?"

"No, divil a whiff av any sort," he said positively—then with a twinkle, "unless maybe what was left behind from the big cigars av the millionaires."

"That might make your eyes water, but would hardly send you to sleep," said I. "Before you became unconscious, did you see any haze or mist coming up?"

"There was nothin' but maybe a kinda blueness in the Street—" he began, then broke off: "B' the holy piper!" he exclaimed. "Come to think av ut, ut was an odd kinda haze, too!—like nothin' so much as the way the letters on me watch would show in a dark corner, or like wan av thim old-fashioned matches would be if ye was to spit on ut in the dark—but more spread about and thinned down."

"Ah, phosphorescent!"

"I wouldn't be puttin' a name like that to ut, so I wouldn't," he said carefully. "If ye understand me, ut was almost too faint to notice. All I say is the Street looked like ghosts might——"

"Thank you, McGrath," I told him. "You've given me just what I wanted to know."

"Is ut a bit av detectin' you're after?" he asked me. "Faith, Mr. Boon, ye've got things out av me that none av thim—polis or private—had the since to remind me av. One of me mates was sayin' that there's been some queer on-goin's up at the Post Office. Have ye heard anythin' at all about ut, Mr. Boon?"

I had forgotten Dick Schuyler's casual reference to the Post Office and my interest was reawakened.

"Commander Schuyler said something about it,"

I said to McGrath. "Was the Post Office gassed and robbed, too?"

"No. I wouldn't say that. I haven't got the rights av ut yet, but ut's just queer on-goin's that's rumoured."

"Ut's a queer affair, so ut is," he went on, "and the more ye think av ut, the queerer ut is. There's me locket, now. D'ye think I can get the polish back on the thing? Not wan bit av ut. Ut's all pitted an' dirty-lookin'. What the girl will say, Hivin knows."

"If you don't mind letting me have it," I volunteered, "I'll give you enough to buy another like it, and something for the girl as well. I'm interested in it."

"Have ut, and welcome," said McGrath. "I'd been thinkin' I'd better get a new wan, an' say nothin' to Norah about ut, for I wouldn't like her to see ut that dirty. I know the store where ut was bought. Let me get the photy av her out av ut, an' ut's yours."

He handed over the damaged trinket, and I gave him two ten-dollar bills. He was mightily pleased, for with the twenty dollars he could buy half a dozen lockets of the same kind, and when I turned into the bank he was grinning broadly as he went off to shoulder his way up the street. I added the locket to my tissue-wrapped trophies.

My next concern was to interview Jaxon and his five men again. Normally they would have left the bank by this hour, but they were still hanging around in some faint hope of cheering news. I collected the six of them in a spare room, and questioned them along the same lines as I had used with McGrath. They all reiterated their former statement that there had been no odour, but three of them, including Jaxon, recalled having heard a faint pop before dropping off to sleep, and their descriptions of the noise were, on the whole, fairly close to that given me by the policeman. Four of them, also including Jaxon, now positively remembered a faint luminosity, and the other two thought they did.

Jimmy Takes Counsel

I NOW took my exhibits, as the police would call them, and my theory uptown to a friend of mine who has a great reputation in chemistry and physics, a clever little fellow called Dan Lamont, so well off that he can afford to have a first-class laboratory, and keep a big staff of assistants working on valuable but unremunerative research. He is a perfect little wizard, and many a time I had gone to him to be pulled out when the physics side of my work had me bogged.

"Hullo, Jimmy!" he said, as soon as he saw me. "What's the trouble this time? Won't the coefficients come unstuck from the dihedrals, or is it that the helicopter still refuses to copt?"

"You're wasted as a physicist, Dan," I told him. "You ought to go into vaudeville as the Unfunniest Back chat Comedian Alive. Haven't you heard about the robbery?"

"I'll bite—and then you can say your smart answer," he grinned. "What robbery?"

There are days when Dan doesn't see a daily journal, and I guessed from his readiness to chaff that he had not heard about the banks. I told him. As I expected, he at once showed the liveliest interest.

"Well, Jimmy!" he exclaimed. "What do you know about that? Most interesting; Christopher Columbus and the hard-boiled egg! Are you telling me that Wall Street was put to sleep for two hours while a gang of crooks helped themselves?"

"That's just what I do tell you."

"Phew!" He stood up and stared at me. Then he took out his loose change and rattled it in his cupped hands—a trick he has when very excited.

"What makes you think the crooks used gas?" he demanded.

"I can think of no other way in which they could dope the district," I said. "Can you?"

"They might have fixed the water supply," he said softly. "No. Water isn't popular enough with the police and the watchmen to make that method effective. But, gas——!"

"What's your kick at the gas theory, Dan?"

"Haven't you said that the people who went to sleep smelled no odour?"

"That's right. Not a thing."

"Then there isn't any gaseous anaesthetic known could do it," said Dan. "Let's see. The absence of odour rules out chloroform and ether straight off. Ethyl chloride—no—too smelly—and too lethal. You say nobody's dead?"

"Not a soul so far."

"Queer, queer! Nitrous oxide has no smell, but its effects last barely a minute. There may be a gas could do it, Jimmy, but I've never heard of it. What makes you so keen on the gas idea, anyhow?"

I told him about the powdered glass, and showed it to him. Then I brought out the locket and my father's gold coin. Dan's excitement grew.

"This is mighty interesting, Jimmy—mighty interesting," he purred. "I never heard of anything to tarnish gold in this way. Chlorine?—chlor—— Hey?" he broke off as he examined McGrath's locket. "Who told you this was gold?"

"It is gold," I insisted.

"Looks more like copper to me."

"Oh, shucks, Dan! It probably has a large percentage of copper in the alloy."

I brought forward the instance of Jaxon's watch, but he took little notice of what I said. He was off on some scientific daydream.

"This coin, too," he brooded. "At first sight I'd say it was copper."

"That's where you fall down, young fellow," I said. "That coin was kept by my father as being a remarkably pure piece of gold. He had it tested."

"May be so, my dear Jimmy—may be so," he said absently. "I'll tell you what. I'll analyze this tarnishing. Leave the locket and coin with me. They look to me to be impure alloys of copper—both of them. Most interesting! I can think of nothing to affect gold so."

"No more can I, Dan," I said, "but I can think of none more likely to find out than yourself. When can I come back?"

"Eh? Oh—ah—yes! Come back, eh? Oh, sometime this afternoon," he muttered, his gaze fixed on the coin and locket. "Gas, eh? Must think about it Good fellow, Jimmy—to give me these. A new thing—mighty interesting. Good-bye, old man——"

He wrung my hand and made a bee line for his laboratory, with the coin and locket held out in front of him in his cupped palms. I chuckled to think I had made Dan Lamont so interested, for I knew that the chemistry side of any investigations I wanted to make was in the most skilful hands in New York. I had enlisted the services of a powerful ally.

An Official Whispers

THE next thing I had to do was to get the *Sieve* back to Long Island and see how Milliken was getting on with the *Merlin*, but on the way down to the jetty I stopped to look in at the Post Office. There was a jam about the place, and the counters were crowded up. I wrote the name of the bank on one of my cards under my own name—which is the same as my father's—and handed the pasteboard to a messenger.

"Are you Mr. Boon?" he asked suspiciously.

"I am," said I.

"Who is it you want to see?" he demanded.

"Anybody in authority who has a minute to spare——"

"Will Mr. Glover do?"

"Fine," I said. "Lead the way to Mr. Glover."

He conducted me along a passage into a nest of private rooms, and tapped at a door.

"Wait here," he said, and went into the room. He was out in a second

"Mr. Glover will see you."

A bald-headed man at a desk in the centre of the room looked up with an ingratiating smile as I came in, but when he saw me his grin froze, and he rose in angry surprise from his chair.

"What trick is this?" he demanded. "You are not Mr. Boon, sir! You are an impostor, sir—an impostor! Let me inform you that I am familiar with the appearance of the president of the National Metallurgical! I am an acquaintance of Mr. Boon!"

"That's fine," said I. "Allow me to introduce to you his son, James Vandersluyt Boon, whose card you have in your hand."

He looked at me suspiciously for a moment, then smoothed down, and held out his hand. I wondered at the change in his reception of me, but next moment it was explained.

"Of course, of course!" he said heartily. "I might have known!" He waved a hand at the flying-kit I still was wearing. "You are the young conqueror of the air, our modern Icarus—though I trust not doomed to the same fate. I trust not," said the pompous ass. "Well, Mr. Boon, and what can I do for you?"

I told him pretty snappily that I wanted a line on what had happened in the Post Office that morning, explaining that I was investigating everything that seemed to have any connection with the robbery of the banks.

Mr. Glover looked hurriedly around the room, as if he were afraid somebody might be lurking in a corner. He dropped his voice mysteriously.

"This is, of course, strictly *entre nous*," he said. "I can say nothing officially, you understand? It must go no further?"

I said I quite understand—and found myself whispering like a fool when I said it.

"Very well, then," said he. "I will tell you, Mr. Boon. A very strange thing happened here this morning. Five little packages, extremely heavy for their size, were dropped into the local collection box during the night or in the early hours. The box was cleared at seven, Mr. Boon, and it was then that they were found. They would have escaped notice, I do not doubt, had it not been for the peculiar circumstance that they were all without the requisite stamps—unstamped, Mr. Boon! The sorter put them aside, and when he came to deal with them later, he found that there were also five bulky envelopes, similarly without stamps. Now, here is a curious fact, Mr. Boon"—with another apprehensive glance about the room—"both the envelopes and the packages were all addressed to important hospitals and research institutions in the city, an envelope and a package to each of five institutions!"

He leaned back to see the effect on me of this thrilling revelation.

"You amaze me, Mr. Glover," said I. "Certainly a peculiar and suspicious circumstance."

"Wasn't it!" Mr. Glover agreed. "The packages were all alike, and appeared to consist of heavy little boxes wrapped in corrugated cardboard and brown paper. Well, now. Naturally the Office was agog with the news of the dastardly outrages in Wall Street, and the sorter somehow connected these envelopes and packages with the crime, Mr. Boon. He summoned his immediate chief, and the result of their colloquy was that packages and envelopes were held over for investigation by our police department."

"Have they been opened yet?" I asked.

Mr. Glover looked pained at my lack of finesse.

"Not officially, Mr. Boon—not officially. Special authority is needed for that." He dropped his voice to a whisper more confidential than ever. "But I can tell you—quite unofficially, of course—that the square packages contained black boxes of wood, inside which were what at first sight appeared to be lumps of solid lead. Closer investigation, however, proved these last to be lead cases with extremely thick sides."

"What was in the lead cases?"

Mr. Glover shook his head.

"I cannot say," he said ponderously. "But as I am inclined to think some outrage is contemplated, I should say—explosives! But, as you may know there is a special department of the Post Office primarily concerned with the handling of such contingencies, and at the moment, Mr. Boon, an investigation is going forward—behind closed doors!"

"You don't know what was in the envelopes?"

Once more Mr. Glover was pained at my bluntness.

"No. That I cannot tell," he said severely. "You now have all the information I can lay at your disposal, Mr. Boon—and that, sir, I beg you to remember, is quite unofficial—and sacrosanct. It must not be bruited abroad!"

I admit that I saw little ground for connecting this mystery with the robberies round Wall Street, nor any need for secrecy. I was inclined to think Mr. Glover's love for the mysterious had led him into a fantastic interpretation of some silly joke on the institutions, but I thanked him with every appearance of being impressed, and took a speedy

leave of him. I was not a little annoyed with myself for having wasted my time on the pedantic fool. But subsequent events, since made public, were to show me that Glover, for all his absurd pomposity, had got nearer the truth than I imagined, and that I had underestimated what was to prove one of the most surprising of a chain of happenings that ultimately were to baffle the whole world. Yet, as I say, at the time I thought the thing some ill-conceived joke on the institutions, or perhaps the result of an error on the part of some manufacturer's dispatch clerk, and I took little stock of it. Without pausing to look into the bank, I made for the seaplane jetty and the *Sieve*.

Round the landing stage now, in addition to the bronze-painted machines of the police, a number of privately owned boats were moored. Luxuriously appointed craft, with their closed cabins and the silk or brocade curtains on their windows, they made the old *Sieve* look more disreputable than ever; but when I noticed that one or two of these swell conveyances belonged to bank presidents like my father, I smiled to think that my old tub, like a mongrel pup to a dog-fight, had been first on the scene of action. And as I set the old girl skimming down the Bay, I smiled still more when I thought how ornamental all that swagger fleet would look, once I got back in its midst with my lovely silver *Merlin*.

She not only had the whole bunch beaten for sheer good looks, but—in the matter of speed—she was to the best of them what the hawk is to the peacock.

CHAPTER THREE

The Merlin

THE cluster of buildings close to Gardiner Bay, where we did our construction and experimenting, was beginning to find definition on the white margin of the sea, when there dropped from the clouds in front and above the *Sieve* a beautiful silver shape. It was the *Merlin* which Milliken had out for a trial flight.

Until that moment I had never seen her in the air. She was my design and had been built in the sheds on the beach under my supervision. Her tests had all been carried out at my hands, and she had never been in the air without me. Milliken had often handled her, but always with myself at his elbow. Until now he had not taken her up on a solo spin.

To see her so, as an outsider would, was a queer experience for me. I felt pretty much as a dramatist might if he saw a play of his acted for the first time. I wish I could write down just what that moment meant to me, but I can't. The clean look of the *Merlin* gave me a thrill. I wanted to fly her myself and be able, at the same time, to watch her from a distance

It was something of a surprise to me to see her up in the hands of Milliken, though I couldn't say that he had exceeded his privilege. It was quite a natural thing for him to do, considering the way I trusted him. But even while I was admitting that he handled her splendidly, a sort of jealousy had hold of me for a minute or two. He passed me, and I signaled half angrily that I would land first.

The graceful silver shape swept dizzily over my bows, turned banking into a sideways loop round me, and righted again to come about after the clumsy old *Sieve* like a great, slim-winged bird. No, I'm wrong. There isn't a bird that could repeat the manoeuvre, and I had thought, until I saw Milliken do it, that only the *Merlin* and myself had the knack, but the mechanic had copied my stunt.

Stupidly annoyed, I planed down for the shore and flattened out to taxi up to the jetty. The mechanics ran out and brought the old seaplane to rest in the shed, and I disembarked to watch Milliken bring in the *Merlin*. She came down perfectly in the hovering flight that had been designed into her, and landed on the water so like some great seagull that the expectation was she would next fold her wings. It was gracefully done and by the time Milliken stepped ashore my jealousy and irritation were swept from me by a feeling of gratitude.

"What's she like, Milliken?" I asked.

"Oh, sir! Oh, sir!" he cried, ablaze with delight. "She's a dream! There's nothing to touch her on sea or land—and we made her, sir—we made her!"

Now Milliken, as a rule, is prone neither to call other men "sir," nor to wax enthusiastic, and his excitement surprised me.

"You handled her well," I said casually. "You've got the hang of that side loop all right."

"Oh, that!" said Milliken. "Why, do you know, a baby could handle her. She's a credit to you, Mr. Boon—it's all in the design."

This from Milliken was by way of an *amende honorable*. When I first introduced him to the design of the *Merlin*, and showed him the wing modifications that were meant to achieve the steep hovering which now distinguished her, he had thought the notion impossible. The idea had evolved from stalling, and he then had the old fixed idea that the only safe way of landing was to plane down on a thin angle and flatten. The idea of perfecting a continuous stalling, in which the machine got into neither tail nor nose dive, nor even into a spin, but simply floated to earth as a feather might, seemed mad to him. The principle is now a commonplace in aeronautics, and how Milliken and I arrived at it, very nearly at the cost of our lives, has little to do with the story I have to tell. I mention Milliken's apology to give just what sidelight it may on the man's character, for he wants some explaining.

If I know anything about Milliken, he will never bother to read these pages, even if he is told he comes into them—Shakespeare and real *belles lettres* are more in his way than this sort of production—so I may say what I like about him. In any case, I won't say anything that I wouldn't tell him to his own ugly old face if the need arose.

I have never met a man with as great a passion so carefully hidden as Milliken and his love for air machines, nor anybody with half his practical experience and skill. He has the strongest hands and the gentlest. No fractious nut is too firmly fixed for his spanner, and no adjustment too delicate for his fingers, and I am open to bet that he has never stripped a screw in his life. He looks about as broad as he is long—which, since he is little over five feet in height, is perhaps not saying such a lot—and with the most equitable of tempers the habitual expression of his face is one of untamed ferocity. If Milliken had wanted to, he could have cleared

the workshops in quick time, and I have seen him rise under three big men, during a rag, and carry them off like so many feather pillows. Like most good men of their hands, he can control his fists. I take it he knows too well the power in them and behind them to use them unworthily.

Milliken is the sort of mechanic who always has about him a lump of cotton waste, and as we inspected the *Merlin* that day—I suppose for about the thousandth time—he was rubbing the frosted aluminum of the fuselage and of the shuttered wings, or was polishing up the glass of the portholes. It was as if he could not get his darling clean enough, for he fussed about the machine like a mother over a spoiled child.

I am not going to say that the *Merlin* did not deserve all his affection. From the gleaming 1,000 h.p. radial engine, weighing just about half as many kilograms, to her rudder, and from wing-tip to wing-tip, she was all frosted aluminum, save only for a thin line of gentian blue that ran along her sides to spread out and cover her rear plane. Through the portholes and windows of the control cabin, a glimpse could be had of the sparrow's-egg blue that decorated her interior, of the shining nickel of the dials and controls. She looked the littlest thing. Yet at a pinch she could carry a dozen and a half fighting men. She seemed the most innocent and peaceable of machines, but her speed and her power of rapid manoeuvre made her just about the deadliest thing that ever took the air.

We could take off the whole top of the cabin above the blue line and fit a fighting top, and round the inside of the fusilage were set stanchions for six guns. Two of these guns, the fore and aft, were belt-guns firing half-kilo shells, the forward one synchronized with and firing between the propeller blades. Beneath were hatches for bomb dropping and torpedo release.

Of course, at the moment I'm writing of, when Milliken and I were standing by her on the jetty, all the fighting kit of the *Merlin* was unshipped. I had every permit from the government, but as the law forbade any private machine to carry armament and I did not want any inspectors dodging around until she was quite ready, her fighting capacity still remained secret. I was putting off the time when I would have to say she was perfect and would have to offer the design to the U. S. government, so she remained a peaceable machine, ostensibly built for pleasure, and her fighting kit lay oiled and ready in the strong-room of the workshops.

The Bird Flies

AS I watched Milliken dance round his pet, I began to have an absurd feeling of guilt about taking her away. The mechanic was sure to be aggrieved, and I wondered how I was going to break the news to him. He stepped back and gazed at the machine with a rapt expression.

"Don't you think," he said slowly, "that the band round her could be widened, Mr. Boon? I don't mean much, Ju-u-st a morsel. Ju-u-st about a sixteenth of an inch either side, to show up her lines prettier?"

"I had a notion of widening the band considerably," said I solemnly, to string him a bit, "about four inches altogether. Then I thought of bringing the blue right round the engine boss, and stencilling a wreath of emerald-green leaves round her nose, bringing the design right round with the band. Then perhaps a row of vermilion dots either side of the blue strip would brighten her up——"

He was gazing at me with his jaw dropped.

"Huh!" he said contemptuously. "Why don't you finish her off like a circus wagon and be done with it? Want to make her look like a swing-boat at a fair——?"

He broke off and grinned.

"You got me that time," he admitted.

"Looks like it," said I. "You and your 'ju-u-st a morsel!' Come up to the office, Milliken. I want to talk to you."

When I had finished telling him of the robbery and of my plans, he put a hand on each knee and scowled at me fiercely.

"Do you mean to tell me you're giving up your work here to go crook-hunting?" he demanded.

"You've said it," I replied. "I've got to stand by the old man in the best way I can, Milliken. He's up against a big thing."

He thought for a minute.

"Well," he said slowly. "I don't know that I blame you. Your father's worth all you can do. But turning the *Merlin* into a private limousine—huh!"

"I have to give him the best I've got, don't you see?"

"Why don't you recondition the *J. V. B. 7*?" he asked. "She's quite a good bus yet, up to about three hundred kilometres per, and more of a passenger machine than the *Merlin*—plenty quick enough for your dad's purpose, I'd say. It'd be a shame to use the *Merlin*. You don't want everybody down at Battery Park swarming over the old girl, do you?"

"Wouldn't do them much good if they did," said I, "but you're right. I'd rather they didn't all the same. I tell you what, Milliken. I'll take you with me to the Battery and you can fly the *Merlin* back. Then I'll phone you in the late afternoon and tell you when to come and pick my father and me up in the evening. Meantime, you can be putting the engine back into the *Seven*, and getting her into order. And, let me see—who is there among the men who could handle her for my father if you and I were otherwise occupied?"

"Young Didcot could. He has his ticket, and knows the *Seven*. He's a good pilot—only, a bit careful."

"Didcot, of course," I agreed, for he was a pupil of my own. "I like the careful streak in him, especially as it doesn't come from concern for his own skin. Well, that's the idea. We'll have a bite of lunch, Milliken, and then we'll get back to the Battery as quick as we can."

Soon after noon Milliken and myself boarded the *Merlin* and set off for New York. The silencer was on, and before we had been in the air a couple of minutes she was nipping along quietly at three hundred and eighty.

"Let her out, Mr. Boon!" Milliken, the tempter, whispered in my ear. "Open the cut-out and let her rip!"

I pulled back the cut-out lever—and the air suddenly was hideous with noise. I opened the throttle carefully.

Breathless, we watched the speed dial. The pointer travelled in tiny jerks up the scale: three-eighty-five—six, seven, eight, nine—three ninety! Gradually, steadily, and the roar of the engine now a screaming, rising note, the pointer crawled round the dial.

A quick look at Milliken, who was sitting in the toggled seat behind me, showed me his ugly old mug streaming with perspiration. His gaze was fixed on the speed dial, and his lips were moving. For myself, my jaws were clenched enough to hurt. Round, round went the pointer: Four-eighty-five—six, seven—back to six—seven, eight -eight—a little more throttle—nine, nine—four-ninety! Creeping, jerking, the pointer travelled—five hundred!

That was the extent of the dial. I had a curious fear that to open the throttle any more would be to burst something. The dial said five hundred, and that was the limit of endurance. I couldn't stand any more and I throttled down. The pointer went back quickly—and I whipped in the cut-out.

Milliken saw the movement, and his lips went quicker. But I could not hear him. My ears were still filled with the roar. The silence was appalling. I tried to speak, but could not hear myself. Then, gradually the sound of a voice came to me as from a great distance.

"Hell!—I knew she would! Heaven!—I knew she would!" it came. "By the holy old keeno, Methuselah, there's nothing to touch her. She's a daisy and a duck! Why'n hell can't they make six-hundred dials? You peach—oh, you little bird! Oh, boy!"

It was Milliken, the normally silent, unpacking his heart of words!

Eighteen minutes after leaving Gardiner Bay we were tying up at the Battery seaplane jetty, I had to shake Milliken to make him realize we were there.

"Wake up, Milliken! We're there!"

"Yes, yes. I know." He cast a look of scorn at the fleet of machines round the jetty. "Look at them!" he cried. "Just you look at the pack of baby carriages! Oh, you bird!" he apostrophized the *Merlin*.

"Bird be damned!" said I. "There isn't a thing on land or sea that's like her!"

"Take her back, Milliken," I told him, "before the rubbernecks get to prying—but don't for the life of you let her touch more than three-fifty at the very most. Go over her carefully. She may have strained something."

I watched him take her out, and followed her until she was lost in the clouds. Then I turned and walked up to Broadway. It may be imagined that I was in high feather, for the *Merlin* had made the latest speed record look silly by an extra eighty kilometres an hour, and I knew very well that she had not been anything like full out. Given that amazing speed, her power of quick and easy descent, her manoeuverability, and her quick climb, I had every reason to think my machine was a world-beater.

A feeling of great exhilaration possessed me as I walked up Broadway. My mind worked at amazing speed, and I found myself gathering impressions of the things around me quicker than I had ever picked them up before. The traffic appeared to crawl, and although I was whacking along as quickly as my legs would let me, I seemed to be travelling at a snail's pace. It was an uncanny feeling, I may tell you.

Five Calculations

MY father, when I got to him, had an astonishing piece of news.

"The stolen securities have been found!" he said right away.

"What! Where?"

"In the Post Office. The lot of them, from all five banks, in envelopes addressed to various hospitals and institutions——"

"Good heavens?" I yelled. "Then that ass Glover was right!"

"What's that?" my father asked in a bewildered sort of way. "Glover? Who's Glover?"

I told him of the interview with the Post Office official.

"It's a mighty queer affair, Jimmy," he said, "and a mighty queer gang of crooks. They got away with a couple of million in securities—all of which have been recovered at the Post Office. In gold they've got away with about two and a half million——"

"If you get the scrip back, what's your total loss?"

"Two hundred and fifty-three thousand odd dollars in gold. It's a tidy sum, but in itself could not affect a bank like ours seriously. The danger is in the rumours that all our gold was taken and in the loss of public confidence. There might be a scare, and a run on the banks."

"No sign of that yet?"

"Not so far, but the news hasn't got into the country yet," said my father. "There's something of a panic in Wall Street already. The markets have all gone bluey."

"I hope you're wrong in your prophecy, dad."

"I hope I am," he said calmly. "But the cheap press is working up a fine scare. A lot of harm will be done if they keep on with it. You'd think the facts amazing enough without distortion, but some of these newspaper fellows have let their imaginations run riot."

A new point came to my mind.

"Two and a half million in gold, dad," I asked him, "what would that weigh?"

"Eh, what's that? Let me see now." He figured for a minute on a sheet of paper. "Over three tons, I make it."

"Bother your old scale of weights," I laughed. "What's that in kilos?" *

"You'd better figure it for yourself," the old man said grumpily. "I've just worked the thing out from ounces troy to avoirdupois."

"My word," said I presently, "That's over three thousand kilos—three, nought, four, eight—to be exact. Say a man can heft twenty-five kilos at a time. That makes a hundred and twenty-two journeys to remove the stuff."

"Trying to work out the composition of the gang?"

"That's the notion. How long would you say it would take a man to carry twenty-five kilos from

* The U. S. A. adopted the metric system for weights, etc., in 1830.

the strong-room to the front door?"

"How much is twenty-five kilos?"

"Fifty-five pounds, old scale—as near as doesn't matter," said I.

"That's a pretty good rough guess for an ingot of gold," the old man said. "Let me see now! Up the stairs—round-swing door—better make it three minutes for the double journey."

"A hundred and twenty-two journeys of three minutes each makes it six hours six minutes to remove the stuff—that is, given that the other banks average the same for carrying distance. Even with old-fashioned oxyacetylene plant—and it seems to me something better was used—they could get into the banks and vaults in about fifteen minutes, but to cover any difficulties, as for instance the bursting of the internal compartments of the strong-room and such, let's say twenty minutes altogether. Five banks at twenty minutes each adds one hundred minutes to the total, and brings us up to eight hours working time."

My father scratched his head at this.

"It was all done inside two hours," he protested.

"Yes, I know," said I, "but eight hours has to be distributed among a certain number of men. Four men could handle the work in two hours, were it not for the cumulated hundred minutes that must have been spent in breaking into the banks one after the other—supposing they had only one oxy-acetylene plant. Let's say five men for a start and see how long they'd take to do the trick. Have you the actual figures of the gold taken from each bank?"

He handed me a list. On a basis of journeys of three minutes each, adding twenty minutes for the breaking-in in each case, I worked out the bare time that five would need to handle the contract:

Nat. Met.	$	353,500	or	13	journeys	58	minutes
Guaranty T.		360 250	"	18	"	51	"
Subtreas		1 056 000	"	52	"	52	"
Dyers' Nat.		450 100	"	23	"	55	"
Trade Bank		450,260	"	24	"	56	"
						182	minutes

"Then five men with only one cutting plant couldn't do it?" said my father.

"No, nor could ten men with only one plant do it inside the two hours. Ten men with two acetylene sets could, though. But fifteen men with three sets could do it better. One squad for this bank and the Guaranty, another for the Subtreasury, and a third for the Dyers' and the Trade."

"M'm," the old man murmured. "Well, how do you think they worked it?"

"The thing that stops our theorizing right off is the anaesthetic that was used. What puzzles me is that the thing is possible with poison gas, and that no crooks have hit on the dodge before. But say that some one has discovered a new general anaesthetizing gas leaving no ill effects. A big four-thousand-kilo truck—three and a half tons, dad—comes down Broadway, drops a gas bomb and five men in gas masks with a cutting plant at this bank. It drops another bomb by the Guaranty Trust. Goes on to the Subtreasury, where it drops another bomb and another five men. It drops a fourth bomb at the Dyers' and goes on to the Trade, where the last gang and bomb are dropped. It waits until the Subtreasury is cleared, then it picks up the stuff from the Trade and Dyers', Guaranty, National Metallurgical, with the men, then goes on to the Post Office and drops the securities in the box."

"You think that's the way of it, do you?" said my father. "It sounds reasonable enough, especially as we know the district was not properly surrounded by the police until the two hours were over——"

"That's the point," said I. "They might have used three trucks, or four—or even five. The thing must have been organized to go like clockwork in any case. If I were the police I'd be searching every garage in the city. The brain that organized the coup would see at once that to take the stuff into the country would be to extend the time in which they'd be in danger of capture red-handed on the open road."

"It's a notion," said the old man. "I'll phone it to the detective staff right off."

"By the way," I asked, "has anything come out about the boxes found at the Post Office?"

"Not a thing, so far. I haven't heard anything."

"Then I'll go uptown and see if Dan Lamont has made anything out of the gold tarnishing. What time will you be ready to start for Hazeldene?"

"Make it seven o'clock."

I left him at the telephone, and in passing out dictated a telegram to Milliken asking him to be at the Battery at seven.

The newsboys were still busy about the streets and were doing an enormous trade. I bought several of the staider journals before calling up an automobile to take me to Dan Lamont's. The first one I opened in the car had a piece of information that, if true, knocked the bottom out of my theory of the trucks straight away. It appeared from the accounts given by several individuals who had been driving automobiles in the smitten district that when the drivers became unconscious the engines of their vehicles had stopped. One man, who had been driving an electric truck, had switched off the power just as soon as he felt himself go faint.

To my mind the fact about the gasoline-driven cars strongly confirmed my idea of a gas. I imagined then that only some agent present in the air could have affected all the automobiles round Wall Street in the same way, and I was chagrined to see that the one vehicle driven by electricity in the district at the time was ruled out as evidence by the fact that its driver had stopped it himself. The street cars were of no value in this regard, because of their self-stopping devices. What would have happened to the truck if the driver had fallen asleep before he could switch off the power? I was inclined to think that only a wall or something of the sort would have stopped that truck, and that it would have come to a smash.

If my idea of a gas was right—and I could see no other explanation for the mysterious sleep or for the stopping of the internal-combustion engines of the automobiles—my notion that the thieves had used trucks for their coup was useless. There was the possibility, however, that knowing the effects of their gas on engines using the air to carburet the gasoline, the thieves either used electric lorries or had some specially arranged engines using compressed air. Such was my fantastic theory, based on a very crude mistake which with all my training I should have avoided. I ought to have had more sense

A Dramatic Story

IT WAS beginning to be difficult to keep track of all the threads that were woven into the mystery, and I'll confess that right there in the automobile I was in something of a panic when I thought of the job I had taken on. Every new point that came up deepened the obscurity in which the whole affair was wrapped, and I was entirely in sympathy with one of the newspaper men whose business it was to write up the robbery. This fellow attributed the whole thing to a master criminal:

THE CRIME OF THE CENTURY!
The Sleeping City.
BIGGEST BURGLARY IN HISTORY BAFFLES THE BULLS!
Master Mind Behind the Wall Street Mystery?

The imagination is staggered by the possibilities opened up by this morning's outrage on the five banks. If by wiping out the consciousness of the denizens of the Business Center of a Great City for two hours a gang of criminals can clean that area of all its movable wealth (for the loss was vastly exaggerated) who can fortell where such operations will stop? Millions of dollars have been lost in the robbery. Five of the most important banks in the country have been crippled. The criminal no longer is satisfied with guerilla raids on the law-abiding world. He has declared War!

Organized efficiency is the keynote of this startling coup. In the execution of their fell purpose the gang of criminals have not wasted a single movement. The attack was made with the precision that indicates a leader of genius. Behind it is the brain of a master crook, a Napoleon of Crime. The mind that could conceive the plan of doping a whole district by mysterious means and so organize the manœuvres of his subordinates is not the mind of the ordinary denizen of the Underworld. It is the mind of a Warped Genius.

To connote the evidence is a matter of difficulty, for there is no evidence to connote. The mind of the master crook has seen to that. . . .

The writer goes on for half a column and succeeds in telling how bewildered he is. Then he draws a dramatic picture of the scene, as he imagines it, during the two hours:

. . . It is like a City of the Dead. About the silent streets recumbent forms of sleeping men are huddled in the doorways or are spread across the sidewalks. Here and there, with his useless club beside him, lies the blue-coated guardian of the peace. A faint gleam of white from another inert figure shows where the clubman has been overcome, stricken down by the mysterious sleep that has fallen like death upon the idle and the occupied alike. Automobiles, with their brilliant headlights throwing the level beams insisted upon by law, are drawn up in the roadways, and seem to carry cargoes of dead men. It is as though some intangible power had stopped all movement with the wave of a magic wand. From the elevated railway on Sixth comes the roar and hum of a passing train. . . .

That was a point I had missed—and what about the subways?

. . . and from pleasure districts uptown is heard the quiet murmur of the traffic, the subdued echoes of moving people. Except for these, the silence is the silence of Death.

Suddenly, under the pillared mass of a great building, a pinpoint of light emerges, and it grows into a blinding glare. Obviously one! It lights up a cluster of masked men and flashes off their goggles of blue glass. With unhurrying speed they do their work and in their unconcern cast no glance at the huddled forms around them. . .

There's a lot more like that, before he begins to tell of the first glimmer of dawn, in which shadowy companies assemble and break up, man by man, each going his own way—I suppose with twenty-five kilos of gold apiece! Well, I had not thought of a perfect army of crooks to manhandle the stuff. He finishes up on a great note, like an old-time "movie" subtitle.

And the Mind that conceived all this, the Arch-crook, the Master Criminal, brooded the while over the conquered City. For the thousandth time, maybe, he connoted his plan of campaign, and smiled to think that it could not fail. The whole of civilized America lay at his mercy, and he had the power, plus the will, to bring ruin and chaos to its prosperous canters. The wealth of the nation was his for the grasping.

Malign this personality must be, but is it the motive power of a new anarchistic movement against established order? Is it, by any chance, the Master Mind behind a recrudescence of the Idea we used to know as Bolshevism? Until the identity of this Napoleon of Crime is established, until he is immured in our strongest prison, he, with his secret and mysterious weapons, has the wealth of the Nation at his Mercy!

If this Master Mind is to be beaten, only a Master Mind can do it, and we beg leave to doubt if the present Chief of Police, the spineless and supine Conrad Dickermann, fills the Bill!

With all my own theories gone astray I was, as I say, quite in sympathy with this writer in his bewilderment. What sort of crooks were they who were capable of relinquishing two million dollars in negotiable securities? It is true that there would have been some difficulty in disposing of the scrip, in the face of the broadcasting by radio of the descriptions, but the thing was not impossible. The newspaper man was right when he said that the robbery was a masterpiece of organization, for in whatever way it was effected, there must have been the slickest co-ordination between the members of the gang. Nor was he far wrong in attributing the organization to a "Master Mind." Something of the kind was behind it all. Where neither he nor his fellows were at all helpful was in suggesting a reasonable explanation of the anaesthesia.

Philanthropy Abroad

I WAS hoping that Dan Lamont would perhaps have come on something that would help to explain the mystery, for I was certain that if any scientist in America was better equipped than Dan for making the discovery, he was so obscure as to be useless. Dan is a top-notcher.

I found the little chap in a great state of excitement, and as soon as he saw me he pulled out his loose change and began to rattle it in his cupped hands like mad.

"You've found the thing that tarnished the gold!" I exclaimed.

"No," he said.

"Then you've hit on the dope that was used?"

"No."

"Then what the devil's all the excitement about, Dan?"

"Jimmy," he said solemnly, "a wonderful thing has happened. At this moment there is in New York more radium bromide than was ever known to exist in the whole world!"

"Well, what about it?"

"What about it! What a phelgmatic ass you are, Jimmy! Don't you realize what it means?"

"No," said I, merely to egg him on.

"It means that experiments in radio-activity, in physics, in therapeutics, can be carried on on a scale undreamt of up to now. It is immense! Great Christopher and the hard-boiled egg! Do you know what it means in money alone—the value of the stuff?"

"Thousands, I suppose?"

"Don't be a fat-head, Jimmy. It means millions, millions! Radium worth several millions of dollars was sent to five of the scientific and surgical institutes in the city this morning."

It came to me in a flash.

"In square black boxes, unstamped through the Post Office!" I yelled.

"Yes," cried Dan. "How did you know?"

"Because I just missed seeing them this morning," I said. "Is there any clue to who sent them?"

"Not a thing," said he. "Where they come from nobody knows. Just after you left me this morning, I was called up by the Post Office to go down there in a hurry. You know I'm supposed to be all right about explosives ever since I handled that I. W. W. outrage for them in 1925? Well, they had an idea that something of the sort was on again, and they called me in.

"When I got down there, I found a group of officials round five black boxes, containing heavy

lead cases. I thought their explosives idea was mad, and I pried up the thick lid of one of the cases with a screwdriver. Inside the case was a heap of pinkish salts. I could hardly believe my eyes, for it seemed to me to be one of the radium compounds—either chloride or bromide—with the usual barium impurity in it. I got away from it, quick, and had them shutter all the windows. By good luck I had a tiny scrap of willemite in my pocket, and in the darkness, held above the salts, it gave off a lovely glow. I had no doubt. It was radium—heaps and heaps of it—and worth a fortune!"

"Was anything said about the envelopes?"

"You mean the big envelopes with the securities stolen from the banks? That's the funny thing about the whole affair. No two of the envelopes or packages were addressed in the same handwriting. We tried to connect them up from the fact that they were all unstamped, but it was apparent that ten different hands had written the ten different addresses."

"I think it binds it. Wouldn't you say that the crooks who broke into the banks this morning sent the radium to the institutes?"

"Would you? You can be safe, perhaps, in assuming that the radium was sent by one individual, or group of individuals, and that the envelopes were sent by the thieves, but can you be certain that the two groups are identical? Is it likely that people capable of the Wall Street affair would be the sort to send radium round—like tea?"

"It sounds contradictory—but they sent the securities, that's certain," said I. "And I've got a notion that the mind that could conceive the robbery, and the gas, and the sending of the securities, is quite capable of doing the other. I'm not going to lose sight of the possibility. Have you formed any opinion of how the anaesthetic was administered, Dan? Have you come on anything to explain the tarnishing of the gold?"

Dan rattled his loose change before replying.

"I haven't a ghost of a notion," he said. "The whole thing's a complete mystery. But I have turned the entire laboratory to testing for the stuff that fixed the gold—and I'll explain the anaesthetic somehow—even if it means discovering one with the same powers myself. This thing's got me going!"

CHAPTER FOUR

Two Clues

I DID not mean to leave Dan Lamont that afternoon until we had gone over all the points of the robbery very thoroughly. I have the greatest respect for my friend's mind.

One of the first things Dan did was to point out where I had made the very sap-headed break in my theorizing. When I told him that the sleep-producing gas was what had stopped the engines of the automobiles, he grinned at me in a sort of sarcastic way.

"Are you chemist enough to tell me what there is in the air that enables the automatic engine to combust its gasoline?" he asked.

"Don't be funny, Dan," said I, and innocently answered him. "Oxygen, of course,"

"Clever fellow, he purred. "And now will you tell me what the human engine gets out of the air to help its combustion?"

Right there I saw where I had pulled the bone. It was obvious that a gas strong enough to deprive an automobile engine of its oxygen would have deprived humans of their lives.

I dare say I deserved all the chaffing he gave me, but he rubbed it in all afternoon.

By and by he was sprawling on the floor of his sitting-room, searching the newspapers for further information that might throw light on the mystery. He had managed to get his mop of flaxen hair so tangled up and over his eyes that he looked like one of those silky-haired Scots dogs.

"A clue, a clue, a clue,—let's find a clue," he was chaffing me. "Let's find a clue on which to base a reasonable hypothesis, my dear Jimmy. I said, mark you, a reasonable hypothesis. The gas that stopped the engines doped the bulls! It may sound all right—but the reasoning is just what might be expected from a mere mechanic."

"Oh, shut it, Dan!"

He shut one eye and recited at me:

"The famous airman, looking for a gas,
Pulls a large bone and proves himself an—egregious mechanic!"

"You might have rhymed," said I, and threw a cushion at him.

"Oh, that that brain which did the ether penetrate
Should ossify and fattily degenerate!"

he finished and threw the cushion back at me.

"I've found another curious robbery of last night that seems to have escaped you, you slug," said he. "Come and look at this, Jimmy."

I got down on the floor beside him. He had one of the stubby fingers of his childish hand on a paragraph in a newspaper. This briefly stated that five thousand litres of high-grade gasoline had vanished in some mysterious fashion, during the night, from one of the big containers in New Jersey belonging to the Standard Oil Company.

"That's a curious thing," said I.

"It is a curious thing," Dan agreed. "Somebody gets away from the financial district with over three thousand kilos weight of gold—and on the same night some one else gets away with five thousand litres of gasoline. What do you know about it, son?"

"Seems to be a craze for weight-lifting sprung up."

"Looks like it," he murmured. "Now, here's another funny story——"

He pointed to another paragraph tucked away on the same page. This reported the abstraction of a large amount of eatables from a big provision store, also in New Jersey, during the night, but here gold dollars had been left to pay for the goods taken away.

"You're not connecting those two things up with the Wall Street affair, are you, Dan?"

He took out his watch.

"It's now twenty minutes to four," he said calmly. "We can be over beyond Newark inside the hour with my roadster, if you'll drive. We'll see if the things do connect up."

At the gasoline station we got little information. Nobody could tell how the fuel had been taken. The station had been closed on the Sunday night, and had been left in charge of a watchman, the manager informed us, and the watchman had sworn

he knew nothing about it.

"Did the watchman by any chance confess to having fallen asleep?" I asked the manager.

'He swore he hadn't," said that official, "but I expect he did. If he didn't, he's in league with the crooks, and the police have got him."

"Stop a bit," Dan Lamont interposed. "You're perfectly certain that the gasoline has been stolen? Isn't it possible that some mechanical device in the tank has failed, that the oil has slipped back to supply?"

"We thought of that," said the manager, "and the mechanism has been thoroughly overhauled. But there isn't any doubt that the outlet pipe was opened in the night and the gasoline taken away."

"The watchman is unshaken in his statement that he did not fall asleep?" I asked.

"Oh, yes. He's fixed on that—but he might be lying, don't you see? He's supposed to be awake all night, and to make his rounds at definite intervals. If he had fallen asleep, he wouldn't like to confess it."

"Where has he been taken to?" asked Dan.

"He's at the local station."

"Right," said Dan. "Let's go there, Jimmy."

The watchman was an elderly Irishman, and just the type one would expect to find at the job. He was stubborn to begin with and refused to talk at all. It was the merest chance that Dan addressed me by my surname, and at that the old boy's attitude changed.

"Are ye Mr. Boon, the flyn' man?" he asked.

"That's me," I admitted, "unless there's another of the name."

"But are ye the Mr. Boon that has the works out at the top end av Long Island?"

"That's me."

"Well, ye've got a son av mine workin' for ye—name av McGinty."

"McGinty your son?" said I. "Well, he's a good fellow, Mr. McGinty, and one of my best mechanics."

"Ye make me proud to hear it, sorr," said the old man. "He swears by you, so he does."

After that, everything was easy. The old man admitted that he'd fallen asleep about one o'clock in the morning, but that he didn't understand how it happened. We pointed out to him that it would be better to confess to having fallen asleep, rather than leave the idea that he was in league with the gang that had emptied the tank. He then said he had been sound asleep between one and three in the morning. We questioned him closely, and began to have little doubt that he was victim to the same dope that had put Wall Street to sleep. He had not heard of the bank robberies. We left old McGinty with the assurance that he was not to blame in any way, and that there was every prospect of speedy release if only he'd be frank to the questioning of the detectives in charge of the case.

Theories

DAN and I spoke to the officer in charge of the district, and got a promise from him that he would put the idea to the investigator who had the matter in hand.

"It's just as well that you've got that out of the old man," said the police officer. "It seems to me that we're on the way to saving two of our best men."

"How's that?"

"You'll have heard that Schomberg's Stores were broken into about two this morning?"

"Yes. To find out what we can about that is part of our business over here."

"Well, you can hardly call the affair a robbery," the inspector said, "what with money being left to cover the loss and damage to the Stores. But how the place was broken into without the complicity of at least two of our patrolmen, we don't know, and we didn't like the idea. After the news came out about the Wall Street affair, these two men came back with a confession that they'd been asleep, but we had a suspicion that they had only seized on the chance to clear themselves. It did seem a bit far-fetched that the gang that doped the folk around Wall Street, and got away with the haul, would bother to raid a New Jersey provision store and leave money to pay for what they took. But if the old man didn't know about Wall Street, before he admitted he'd fallen asleep, the chances are that he's telling the truth."

"There was no watchman at Schomberg's Stores?"

"No, the place is shut up at night—nobody left on the premises."

"Could we see two patrolmen in question?" asked Dan.

"Easy," said the inspector. "They sleep at the station, and are sort of confined to barracks."

A short interview with the two policemen convinced my friend and myself that their story was true. They had concealed the fact of having fallen asleep in fear of losing their jobs, and it was only the news of Wall Street that had given them the courage to tell the truth.

Dan and I had heard as much as we needed, and as we drove to the Cortlandt Street Ferry at an easy pace, my scientific friend weighed the thing up.

"They do connect up, Jimmy," he said.

"I'm sure they do," I agreed.

"They link up, so far, only through the use of the anaesthetic," he went on. "But I can find no sane connection in the things stolen. Two and a half millions in gold, a hundred kilos of provisions, and five thousand litres of gasoline. It's a mad thing, however you look at it."

"It's crazy," I admitted. "Jackdaw crazy."

"If we could find out what they wanted with such a queer collection," said Dan, "we'd be on the track of what they are."

"Suppose" said I "that it's a gang with headquarters in the country somewhere, a regular band of raiders operating on a large scale. They have a fleet of trucks, each equipped with the latest appliances for bank-breaking. They want the gasoline for the fleet of cars, and the provisions for feeding the gang——"

"A concentration of that sort would immediately arouse suspicion in the country, Jimmy."

"I don't know so much about that, Dan. It might be quite an innocent-looking factory, or foundry, with accommodations for the men——"

"Yes, asking folks to notice it by never dealing with the local stores——"

"Shucks, Danny!" said I. "Look at my own experimental shops. Right on a lonely strip of beach, and two or three kilometres from the nearest village. Except for a government inspector or two once in a way, nobody ever comes near me—and half my men live on the premises."

"Yes, but your experimental shops don't come under the factory laws. None of your men belong to a trade union, you've told me?"

"That's right."

"Well, if any gang of crooks got up a stunt such as you imagine, it would be difficult to escape detection in the ordinary routine of factory inspection.

"But, listen, Dan! If I wanted to go in for bank-robbery, it would be easy enough—given that I had a dope——"

"Great snakes, Jimmy!" Dan exclaimed. "You're on the business for sure! Could you land that new bus of yours in Broadway?"

"I'll bet you five thousand dollars I do—with wheels instead of floats——"

"What would your new bus carry?"

"In her present condition, without her fighting kit, about three thousand kilos, besides a crew of six."

"Then two buses such as the *Merlin* could have made that robbery in Wall Street and Broadway possible?"

"Sure," I said. "And, what's more, could be in the Rockies by this time——"

"Then we're on the trail, Jimmy——"

"Yes—if we wash out the question of the gasoline, Dan. There's a difficulty there. And, besides, there's only one *Merlin*—unless somebody has stolen a march on me. But say that somebody has a design as good. It's not only a question of lift, remember, but of taking off down Broadway. But say the supposed machines could. Do you see them dropping into that New Jersey gasoline station and getting away with five thousand litres of oil? I don't. I don't see even five *Merlins* doing it."

"What about a helicopter."

"The helicopter is a washout as far as lateral speed is concerned. It hasn't been applied successfully to a plane yet."

"Airship then?"

"More like it—but, phew!—you're getting up a whale of a theory, Dan!"

"I know that, Jimmy," said he, "but it's a whale of a robbery."

By this time we were at the ferry, and our discussion was shelved in the business of getting aboard the waiting ferry-boat. Once on Manhattan, we drove straight for the Metallurgical National. When Dan and I got into my father's room, we found the old man looking a bit worn.

"I won't be ready for you until seven, Jimmy," he said at once. "And I've a lot to do before then. Wall Street has gone mad, and there isn't a thing on the list that hasn't dropped. There's been a run on the country branches of all five banks, and some of the others as well. I have a meeting of bank presidents at six."

"Righto, dad," I said. "We'll clear out——"

"If Dan and you are on something new, why not bring him over to Hazeldene for the night, and let's do our talking there?"

"How about it, Dan?"

"Fine," he said.

"But your analysis of the tarnishing?"

"My fellows can do the tests all right. I'll take a run up and see how they've got on, and fetch my kit down here."

"I'll come with you, then. The landing-stage at seven, dad?"

"I'll be there, son," and with a nod to Dan and myself he became immersed in his papers again. We were just going out of the door, however, when he called us back.

"Perhaps you'd better take the elevator to the top of the building and see the janitor, Klenski. He has some weird story about houses hanging from the sky, or something. He's no temperance advocate, Klenski, but you might get something out of it."

Dan and I exchanged a look and bolted for the elevator.

The Tale of the Finn

UP on the roof, we found Klenski, a Finn, born in America, whose faded blue eyes, uncertain movements, and indistinct voice showed at once the soaker. The man was eaten into by alcohol.

"What was it you saw last night, Klenski?" I asked him, as soon as we'd got him out on the roof.

He pulled in the corners of his mouth, in an effort to stop the twitching of the lips that always preceded his speech.

"A cabin—like a rail'ay coach—smaller—'ging b'ropes f'm sky . . . "

"Where was this? At what time?"

He butted his head towards the railings on the parapet wall.

"There?"

He nodded jerkily.

"What time was this, Klenski?"

"Las'ni—'smorning—s'm'time—coonsay . .. "

"About three this morning, maybe?" Dan insinuated.

Klenski turned to him gratefully, and chucked a jerky nod at him.

"What were you doing about at that time?" I asked him.

"G't up t'git s'm'thing—c'm'out see what s't night 'twas—saw cabin—like rail'ay coach c'min' down out'n sky on ropes—'slike that . . . "

He made a jerky downward gesture of the hand.

"Did you look up to see where the ropes came from?"

He shook his head and gazed at the concrete under our feet.

Dan pointed up at the sky, thinking the man did not understand. But the eyes of the Finn did not follow the hand, and we realized that the man could not bear to look up at the sky. I'd seen the same disability in an alcoholic before.

"Well, what happened then?" Dan asked gently.

"Went over to railings 'nd looked down. 'N blue wall came over my eyes. 'Sall. Went back t' bed. Cold."

"Blue wall?" said Dan. "What sort of blue wall?"

The Finn gazed at him pathetically.

"Blue wall," he said in his gentle indistinct way. "Blue wall . . . other side 'frailings. Down—down—'slike that . . . "

Again he made that downward gesture of the

hand.

"Did you hear any noise?" I asked.

The lips twitched desperately, and a silly smile came into the Finn's face.

"Whisper—whisper—'sper. Binz-z-z!" he imitated. "'N I d'n' know any more, please."

We left it at that, for it was painful to talk to the man, he had such terrible difficulty in talking—or even thinking

"Dare we interpret the maunderings of that dipsomaniac into evidence for the airship idea, Jimmy?" Dan asked when we were in his roadster again.

"Let's," said I, "and see what it leads to."

"He got up for another drink, you know," said Dan. "It might all be drunken imagination."

"Possibly. The only concrete thing about it is the cabin—which might be the gondola of a dirigible."

"And the blue wall, Jimmy—the blue wall? Some effect of alcohol on the eyes, maybe?"

"Maybe," I agreed. "Unless—unless what he saw was the side of the airship——"

"Could an airship venture so low?"

"How can I tell, Dan? If the crooks came out of an airship at all, it would be less likely to be spotted if it came as low as possible over the area of operations, where all the inhabitants were unconscious. The higher it remained, the wider the field from which it was visible. You've got to remember that the Metallurgical is only a little less than the Woolworth, and that the few overhead cables still in existence are well under roof height. Say your supposed airship had a width of just under thirty metres—there's nothing to stop it from nestling in Broadway."

Dan let out a chuckle.

"Columbus! This is deep stuff, Jimmy. We'll have to do a lot of sleuthing before we're through."

"I'll tell you what, Dan. I'm going to get Dick Schuyler on the phone, and ask him to join us to-night at Hazeldene. With the old man and Milliken we'll have a fine old council of war—a regular powwow."

"Has Dickie any sense?"

"You bet you," said I. "Dickie not only has sense, but he knows more about lighter-than-air machines than I do. I don't favour that sort of flying at all."

When we arrived at Dan's laboratory, he went off to see his research merchants who had been working on the tarnished gold. I didn't go with him, being on the phone to Dick Schuyler. I was lucky enough to find my man at home with his squadron, and he fell in with the idea of joining the party at Hazeldene.

"I'd like to come across on your new bus, Jimmy," he said, "but I'm on duty again at five in the morning. I'll fly over on my own bus if you can berth her for me."

"Tons of room, Dick," I told him.

"When do you start for Hazeldene?"

"At seven from the Battery stage."

"Right," said he. "I'll start with you."

"Very well, old son," I said. "We'll wait for you at the other end."

I heard a splutter come over the phone.

"Now, what the devil do you mean by that, Jimmy Boon?" Dick demanded. "I have to inform you that my bus is the quickest thing in the service."

"Can she do five hundred per?" I asked casually.

"Good Lord!" he yelled. "Can the *Merlin*?"

"Start at seven and see for yourself," said I, and rung off.

Dan came back just then, but had no discovery to report.

"My fellows are in the air," he said. "That locket and coin of yours have got them going. There seems to be the faintest trace of a radio-activity filming the gold, but they have not determined what it is yet. I've indicated new tests, and they'll work late on them. The thing's a puzzle."

He went off to pack a kit-bag, and while I waited I ran through some newspapers we had brought on the way up town. The columns were crammed with talk of the robbery, and it was evident that business was badly jolted. Every paper spoke of the "panic" on Wall Street, of the run on the branches of the banks, and none of them could make head or tail of the radium mystery. Since the passing of the Personal Liberty Laws, which restored to Americans the right, among other things, to drink when and where they liked, and what they liked, the newspapers had not shown such scare lines. But in all the mass of written stuff there was not a single helpful word.

The phone buzzer went, and I found my father at the other end of the wire.

Ready For Business

"SAY—is that you, Jimmy? Your father speaking. Is that new plane of yours up to picking a passenger off a liner which is now thirty-six hours away from Sandy Hook?"

"That'll be about fifteen hundred kilometres away—eh?"

The old man swore.

"Durn your new-fangled measures, son," he said. "I make it nine hundred American miles——"

"Same thing. When do you want him to be in New York?"

"Could you land him at the Battery at ten to-morrow?"

"Yes. I can pick him—or her—up in good time for that."

"I said 'him,' Jimmy. Lord Almeric Plauscarden, deputy governor of the Bank of England, it is. He's on the *Parnassic* due off Sandy Hook on Wednesday morning."

"Right. I'll do it."

"Thank you, son. I'll radio him to expect you—when?"

"Just before six to-morrow morning."

"Good. See you at the Battery presently."

If the old man had patted me on the back physically, he would have pleased me less. There was something in the casual way he had proposed the trip, a certainty of my straight answer, that made me feel good and chesty. I'm sure if I had said no, he'd have taken it as casually.

The feeling had not worn off when Dan Lamont came back with a small kit-bag in his hand.

"What's the smug contentment for, Jimmy?" he asked. "Have you just heard that the President has resigned and that you've been offered the job?"

I told him, and his eyes lightened up.

"Say, Jimmy," he pleaded, like any kid, "I'm coming with you, old man—you're taking me with you, aren't you?"

"It means starting about three in the morning, Dan."

"That doesn't matter, Jimmy. I'd like to come along——"

I said he could, and he danced a little breakdown to show how pleased he was. Dan Lamont's an awful kid in some ways, for all his high position in the scientific world.

We drove down to the Battery in good time, and waited to see the *Merlin* come in. Dan's man drove the roadster away, and presently my father arrived. Dick Schuyler had his seaplane moored a little way along, and he waved his hand.

In a little time I spotted my bus like a dot in the clouds, as Milliken came speeding across Brooklyn, before turning north into the Upper Bay. He was flying good and high, and to an outsider seemed to be overshooting the point for making a safe angle. I took a look out of the corner of my eye at Dickie Schuyler, and he was standing up in the cockpit of his boat, yelling to attract my attention.

"What's the matter, Dickie?" I yelled.

"That your boat?"

"Yes"

"That fellow's going to crash her—too steep an angle?"

I waved my hand serenely, and he dropped back into his seat to watch, open-mouthed. I fancy he expected to see Milliken turn back or spiral to the right height for planing into the landing-place, but he stood up to watch again when the *Merlin* began her hovering flight down.

My father touched my arm.

"That's something new, Jimmy?" he asked.

"Two years' work in that, dad," I said

He just patted me on the shoulder.

The *Merlin* touched the water about twenty yards out, and taxied slowly up to the jetty The landing-stage crew turned her, and we all got aboard, Milliken giving up the pilot seat to me. I waved my hand to Dickie Schuyler to show that I was ready, and we both took off together. In that particular flight we didn't go much above four hundred kilometres per, but we left the police boat well behind. In fact, the *Merlin* was berthed and we were all on the jetty waiting when Dickie landed.

"You've got some bus, Jimmy," was all he said at that time—but he had a lot to say later on.

This projected trip out to the *Parnassic* knocked my idea, of making Milliken one of the council of war, clean on the head. I might have trusted another of my fellows to go over the *Merlin* preparatory to the flight, but I knew that Milliken would not let anyone else do it. An extra gasoline tank had to be shipped and fixed with new connections, and the job wanted a sure hand.

Milliken promised that everything would be ready by three o'clock, and picked out a squad of the more skilled mechanics to do the work. He took it for granted that he would come with me on the flight, and I knew that it would be useless to argue with him, but he agreed to take a bit of sleep when the job of fixing the extra tank was well in hand. So I had to leave it at that.

We had to let Dick Schuyler get off his opinions of the *Merlin* at dinner before we could fall to discussing the robberies seriously. And I am afraid that the dinner was unduly prolonged before I satisfied his curiosity by the aid of a whole thick pad of scribbling paper. The funny thing was that neither the banker nor the man of science seemed to be bored by the arguments. Dan and my father were as keen as a mustard box.

When at length we had the *Merlin* thoroughly explained, we were ready for coffee and other drinks in the smoking room, and there Dan and I put forward our theory of the robbery.

The Air Wins

"PINKERTON & Co.," said Dick. "I'm pleased to meet you. I often wondered who you were. Well, well—so you're only you, after all!"

"Don't you think it's feasible?" I demanded.

"Ah, if you come to feasible—it's just feasible, Mr. Pinkerton—or are you the Co ?"

"I wish you'd quit kidding, Dickie," I said. "Do you consider the notion reasonable?"

"Reasonable? Mr. Pinkerton, I "

Then Danny and I both sat on him.

"I'll be good—I'll be very good!" he yelled presently. "Shurrup, Jimmy! Stop it! I'll be good!"

We let him go, and after telling us that we were a couple of thugs, he became very sound on weights and gases and hot air of that sort. He had the latest statistics about dirigibles at his finger-tips.

"I think you may discount the Finn's blue-wall idea. It would be very dangerous for a dirigible of any size worth talking about to come down so near the buildings. On a night like last night, with the wind there was, there would always be a good deal of drift, and a dirigible is not the sort of thing you can push away from a wall, as you do a ship's boat from a quayside."

"I'm inclined to agree with you," Dick went on, "that the Wall Street robberies are linked up with the gasoline and store affairs in Newark. The dope links them up. But why drag in an airship to explain the possibility of the job being done by one gang—to explain the need for the gasoline? I can't see an airship dropping down on Newark and not being spotted. You've worked out that one four-thousand-kilo truck could handle the gold?"

"That's right," I said.

"How far is the gasoline station from the bay side?"

"Not far, but it stands on a canal running into Newark Bay."

"That will do my business," Dick said triumphantly. "Suppose we just put a jolly old motor-ship—not big—say about twenty tons—alongside our nice little gasoline station. On land, we have our four-thousand-kilo truck. The motor-ship drifts down to the gasoline station, and whangs in the dope—gas, or whatever it is, then proceeds to run a pipe up to the tank. It takes its fuel. In the meantime the gang with the truck is operating on Schomberg's Stores. When that is done, the truck moves off across the Hudson by the Cortlandt Street Ferry, which runs all night. It drops its dope in Broadway and down Wall Street. The gang bursts the banks and collects the goods, and off out of the district to a private wharf, say, on the Jersey City side of Newark Bay, to where the jolly little

motor-ship has swum over. The little lugger is loaded with the booty, and drops down either side of Richmond—and there you are!"

"Now, do you know," said Dan Lamont, "that's a very pretty story, Dickie—and very well told, too! But how do you get over the fact that all the automobile engines stopped in the doped district?"

"Ours is a special automobile ours is! Maybe it's an electrically-driven truck —"

"It now appears," my father interposed, "that the street cars down Broadway were stopped below Post Office Square, nobody knows how."

We all turned to stare at him, for we had almost forgotten his presence, he was so silent. Dan was the first to recover.

"That washes out your electric truck, Dickie," he said.

"You can have your airship," Dick said. "When you get crooks that can dope a whole district, stop automobiles and electric cars, spread stickfast, so to speak, on all movement for two hours over an area of a square kilometre—what's to prevent them having an airship that can nestle down on Broadway? Have your airship—but do think tenderly of my little motor-lugger. I was so fond of it."

"What do you think of it, Mr. Boon?" Dan asked my father.

"I think the difficulty of concentrating, and of getting away undetected, points to an approach from an unexpected quarter—so I say the air. The Finn's dream is too exact to be alcohol. It's simple. Just a cabin coming down from the air—then a blue wall—and some noises that to my layman ear sound uncommonly like machinery. No alcohol dream that. So I say the air. Seems to me that whatever theory you try to develop, you always get about half-way with it. But I have a hunch that the solution will be found in the air. Dick showed more surprise over Jimmy's new seaplane than over the whole robbery. Why?"

"Because Jimmy has evolved a new principle, sir," said Dick.

"Well, Jimmy hasn't got the monopoly of brains in the world. Maybe somebody's evolved a new principle for dirigibles," said the old man. "I'm going to have one more drink. Then I'm going to bed. And if for-once I may play the heavy father, I'll advise you all to do the same. Seven hours from now, Jimmy has got to be six hundred miles out at sea."

"So have I," said Dan Lamont proudly.

We all had another drink, and the old man told us exactly how he got on the long green in four and holed out with a handsome putt for a five.

CHAPTER FIVE

A Ghostly Ocean

IT WAS three o'clock on the Tuesday morning, and Dan Lamont and myself were standing in the porch of Hazeldene with my father. The roadster was purring out on the avenue. The old man had the flimsy of a radio message in his hand

"Lord Almeric will be ready for you, and asks that you will pick up an extra passenger if possible," he said, "most likely his secretary. Can you do it?"

"Sure," I replied. "That will be all right. Did he say anything about the ship's probable position at six o'clock?"

"No. Here's his message—you'd better have it. And here's a note I have written to Lord Almeric."

"You'd better have an automobile waiting for him and his secretary at the Battery from nine o'clock. We may make good time—it is fine flying weather. You'll be all right with Didcot on the *Seven* going across, dad. Well, so long!"

"So long, son! 'Morning, Dan!" my father said. "Look after yourselves. You're fixed all right for food?"

"Milliken is sure to have everything fixed," I told him.

Just then Dick Schuyler, in a dressing-gown, came out of the house.

"I've just been through to headquarters," he said. "There isn't much ice about, and flying conditions are good, Jimmy. You should pick the *Parnassic* up in no time."

"Thanks, old man. Well, so long!"

We roared down to the sheds in quick time, and found the *Merlin* afloat and ready, shining like silver under the arcs. Milliken had everything prepared, from extra wraps and food for the passengers, down to easy chairs in the cabin, and the fixing of the tank had been done in very workmanlike fashion We were good for three thousand kilometres.

We took off at three-fifteen, and I laid the course on a point or two north of east, quickly bringing the *Merlin* up to a steady four hundred kilometres the hour. It was reckoned that we should sight the *Parnassic* at a point six hundred and fifty kilometres east of Cape Cod, and two hundred and fifty south of Halifax, which gave us a thousand-odd kilometres of an outward voyage.

It would have been easy that morning to fly by the stars, they were so clean and bright. Their light was reflected in a dusky sheen off the sea below. To the north, the Great Dipper was poised on the end of his handle. What clouds there were about were the merest wisps, and there wasn't a trace of fog.

Danny, wrapped as if for a journey to the North Pole, sat at my side, a little behind where I was in the pilot's seat, and he leaned forward in interested silence to watch every move of my hands, but his eyes were shining with delight at his adventure. The murmur of the silenced engine came to us on a beautiful liquid note which showed clearly how thoroughly Milliken and his men had done their work. That excellent artificer sat on the floor at Danny's feet and leaned against the side of the cabin, his head cocked sideways to listen intently to the voice of the engine. There was nothing to do, for the *Merlin* was flying like an angel.

The lights of steamer after steamer appeared faintly on the skyline, neared, and passed under us out of sight. On our port bow the coastwise lights winked and glowed, until at last Nantucket fell far astern, and in less than an hour's flying we had passed to the south of Cape Cod. When the clock on the control-board showed four-fifteen, I turned to Milliken.

"Let down the aerial," I said, "and see if we can pick up the *Parnassic*."

It was characteristic of the man that he knew the call and the wave length without having to ask, and it was without any comment but a quick nod

that he lowered the aerial and fixed the receiver to his ears. In a minute the cabin was filled with the blatter of the radio.

"PNC! PNC! PNC!"

He waited a little and repeated the call, then suddenly switched to the open receiver of the radiophone. A strange voice issued from the box and filled the cabin.

"There's something the matter with the *Parnassic's* wireless," said the voice, "gone phut, or something. Who's calling her, anyhow?"

"This is the seaplane *Merlin*," said Milliken. "Who are you?"

"British steamship, *Maramba*," the voice replied. "Where are you?" Milliken looked at me.

"Two hundred kilometres or so due east of Cape Cod," I told him, and he repeated it into the transmitter.

"Looking for the *Parnassic*?"

"That's the notion," said Milliken.

"She should be somewhere round 43° north, 60° west. I say, there's something the matter in this blinking ocean this morning—ghostses or something—gives you the creeps. Well, cheerio, *Merlin*!" said the English voice. "Is it cold up there?"

"Not a bit of it, thanks," said Milliken. "Cheerio, *Maramba*!"

"Cheerio and good luck!"

Milliken looked to me for instructions.

"Wait fifteen minutes, Milliken, and try her again," I told him. He pulled up the aerial, and almost without thinking what I was doing I opened the throttle. The hand of the speed-dial went steadily round to four-fifty, as the *Merlin* lunged forward with a keener note.

"What's that glow that comes and goes on the horizon away to the left?" asked Danny, when fifteen minutes had elapsed.

"It must be the light on Cape Sable," I said, with a look at the height register, which showed we were three thousand odd metres above sea level. "About a hundred and sixty kilometres away."

Milliken was letting down the aerial again, and soon the radio once more was spluttering its "PNC! PNC! PNC!" But save for the steady song of the engine, no sound greeted our ears. Milliken tried again, and again, without result. An uneasy feeling took hold of me.

"Haul in the aerial, Milliken," I said. "I'm going to let her go full out. Clamp the telephone receiver to your ears, Dan."

Milliken spun the drum round, and turned to help Dan with the cap-receivers, which would cut out all noise except what could come through the phone, and then he did the same for me. When we were all fixed, I opened the cut-out, and gave the *Merlin* full throttle. The dial hand jerked round to five hundred kilometres and stayed put, for that was the limit of its register—but I knew we were going well over the five hundred

It was now fifteen minutes to five, and a cold grey had crept into the horizon ahead. Steadily, steadily, as we sped into the dawn, the light paled into silver and primrose, the floor of the sea passed from dull blue into a living purple flecked with green and silver. Minutes passed, the hand of the clock on the control-board dragging heavily, and again I felt that curious alertness of perception which I had experienced on and after the flight of the day before. It was more than alertness. It was an anticipation of things that were about to happen.

And now, with the coming of the light, visibility decreased as a haze began to grow over the face of the sea. We dropped on a long angle to fifteen hundred metres. Here and there, the sea was dotted with steamers which, though visible to us, must have been out of sight of each other. These we could see were freighters and small liners.

All three of us in the cabin of the *Merlin* were staring ahead, expecting to sight the great mass of the *Parnassic* at any moment, for the time was now well past five o'clock. As far as one could judge, we were nearing the position where the liner could be expected, but the haze below us was thickening quickly and, every minute, was lessening our range of vision. Soon it would mean casting circles in search.

Suddenly Milliken touched me lightly on the shoulder and pointed. Ahead of us, four masts and three funnels pierced the mist. I throttled down and whipped into the silencer, then hovered down into a steep angle. We were over the ship in a few seconds.

"There's something the matter there, Mr. Boon," said Milliken. "There's no way on her, and she's rolling broadside on."

"My God!" cried Dan Lamont. "She has been abandoned!"

A Close Shave

THERE was something terrifying in the helplessness of the great liner. Broadside to the rollers, she lay sluggishly, swaying and veering amongst the oily hummocks, and about her was the silence of death itself. Not a soul stirred on her decks, and the thin wisp of steam that curled from one of her smoke-stacks was the only thing about her that moved.

I know that my hands were shaking on the joystick, and it was all I could do to master the sick feeling that was creeping over me. We circled round her as slowly as we could, and coming as close as we dared.

"Look!" I said. "There are dead men lying on the bridge!"

"God in Heaven!" Dan Lamont cried, white to the lips. "What can have happened to them?"

"I don't know," I muttered, "but we'll find out."

I swung the *Merlin* closer still to the liner.

"What are you going to do, sir?" Milliken cried apprehensively.

"I am going to put the *Merlin* aboard her, if I can"

"You'll smash her, sir!"

"Maybe," I said madly, "but we're going aboard."

"Don't try it, sir! For God's sake, don't try it!"

"Shut up, Milliken!" I said crossly—then realizing that he wasn't thinking of his own skin, but of his beloved *Merlin*, I grinned at him feebly. "It's all right, Milliken. I won't do anything rash. Let's reconnoitre."

It was out of the question to try and bring the *Merlin* alongside the heaving freeboard of the liner. We would have had our wings smashed for a certainty. Nor was there space available to land on any of the decks, cluttered as they were with ventilators and deck-gear. The only likely place to bring her aboard was on what appeared to be a

long stretch of canvas covering the promenade deck astern, and it was a question if that would take her weight. Fortunately, there was no cordage much aft of the jiggermast, except for one stay coming down to the stern-post, and all halyards were reeved close to the mast. A ventilator or two pierced the awning.

Though it was a terribly risky thing to attempt with the ship rolling as she did, it was the only chance, and I told Milliken what I proposed to do.

"All right, Mr. Boon," he said. "There's nothing else for it—if we are to get aboard. I don't blame you."

"What about you, Dan? It's a hundred to one you'll be smashed or spilled into the sea."

"That's all right, Jimmy. Go ahead with it."

"I'll get down on the floats, Mr. Boon," said Milliken; "might be handy to brace her if she topples."

He fetched out a length of rope and cut it in two, then, taking off his coat, he slid through the hatch to the port-side float.

I was depending on the *Merlin's* power of hovering to pull the thing off, so I took her up a bit to one side astern of the ship, gauging the distance to miss that after-stay. The ship, rolling horridly, came up to meet us. We were over the awning, then it veered from under us—I thought we'd missed it, when—back it swung—slowly. I flicked the rudder round to bring us into line with the ridge of the awning. We landed with a grinding shudder, then heeled sideways as if we'd never right. I had quite made up my mind that we were going to crash over on our back in the sea below—but after a sickening moment or two of suspense we righted!

Dan, flat on the floor, with his head poked out of the hatch, let out a yell.

"By Christopher, Jimmy!" he shouted. "Did you see that?"

"What?"

"Milliken! Oh, you Milliken!"

It was Milliken who had saved us. Lying on the float, he had seized hold of one of the ventilators as we settled, and, with those amazingly powerful arms of his outstretched, had braced us as we toppled, otherwise we would have crashed overboard. Few men living could have done it. When I got down on top of the awning, my mechanic was composedly tying one of the float struts to the ventilator, and a very white face was all he showed of the superhuman effort he had put out.

"Not much damage done, Mr. Boon," he said quietly. "Except that the starboard float has sprung a bit, I think."

"Good for you, Milliken," was all the thanks I dared give him for saving our lives. "You stopped us from going overboard."

Luckily for us, the canvas of the awning was stretched over stout boards, strongly supported, and these were sufficient to take the weight of the seaplane. Milliken lashed the opposite strut to another ventilator, and we all climbed down to the deck.

The ship still was held by that awful silence, unbroken save for the lap-lapping of the sea about her, and I fancy all three of us were gripped by a sense of overwhelming awe as we went down the companionway, making for the gangway swung across the after-well. From the gangway we saw, down below us, a number of seamen sprawled inertly in the scuppers and about the hatch. We called down to them, but they did not stir, and our voices, unnaturally thin, came back to us in eery echoes from the open hold.

"Let's take the bridge first," I said.

All Asleep

WE ran up the ladders to the lower bridge, and in the chart-room we saw an officer lying on the floor in a heap. Dan went into the chart-room, while Milliken followed me to the upper bridge. Here we found two officers huddled behind the high canvas dodger, and in the wheelhouse behind, two seamen lay together, one of them face downwards with his arm rove through a quadrant of the wheel

It was as if the ship had been struck by a sudden plague. I don't know how Milliken felt about it, for his ugly old face was a mask of stolid calm, but shivers were running up and down my spine. I kneeled beside the officer next to me.

"He's breathing, Milliken!" I cried, and I gently shook the supine figure by the shoulders, but with a sigh the man only settled back more closely against the rails.

"Try the other man," I told Milliken.

My mechanic stepped over, and gently raised the officer—he was the chief—into a sitting position against his knee. The man opened his eyes and blinked at us, then with amazing suddenness was wide awake.

"What the hell?" he said, and staggered to his feet. "Who are you? What are you doing on the bridge? Get off the brid—" His gaze fell on his brother officer. "Here! What have you been doing to Barr? You've killed him!"

He was a huge man, and he made a move towards me with a look that was not very pleasant.

"Don't be silly," I said, as quietly as I might. "He's asleep—the same as you have been."

"What's the matter with the ship? God! She's adrift! What——" He stared at us, and passed his hand over his head. "Lord! I remember now—but it was dark then——"

Meantime Milliken had managed to waken the younger man, and just then Dan came up the ladder with the officer who had been lying on the floor of the chart-room. Only by his braided cap could one tell he was the captain, for he was in pyjamas with a thick blanket-coat over them.

"What's the matter, Mr. Boscence?" he demanded wildly. "It is two hours since we hove to—just before six bells in the middle watch—I've been asleep—or unconscious. This gentleman—what has happened to the ship?"

"I don't rightly know, sir," the chief said, passing his hand over his head bewilderedly. "There's something queer here——"

The captain stuck out his white torpedo beard.

"Get some way on the ship. Ring down—" He whirled round to the wheelhouse as he spoke, and broke off. "For the love of God—look at the steersmen! What's come over the ship?"

I nodded to Milliken, who ran into the caboose and woke the seamen quite easily.

Dan looked at me in a dazed sort of way.

"Jimmy!" he gasped. "It's Wall Street all over again! You'd better explain to the captain."

"Where do you come from?" the captain de-

manded. "How do you get aboard my ship? You're not passengers."

"You're Commodore Sir Peter Weatherly, aren't you, sir?" I asked.

"That's me," he snapped.

"I'm James Boon, Sir Peter," I explained. "I've come out on my seaplane, the *Merlin*, to take Lord Almeric Pluscarden on shore. We found your ship adrift, and I managed to land my machine on your awning aft there. The whole ship has been doped, sir."

"Ring down to the engine-room, can't you, Boscence?" the commodore said to his second in command, ignoring me. "We must have some way on her."

"I have done so, sir," the bewildered chief officer replied. "I get no bell back from them."

"If I might suggest something, Sir Peter," I ventured. "Let my mechanic, Milliken, go round with your officer here," indicating the younger man, "and waken up the crew."

For a moment he stared at me as though trying to collect his thoughts, then he nodded briskly.

"Do that, Barr," he ordered. "Wake the crew—though what on earth they should be asleep for beats me. And you, young man—Mr. Boon, you say you are—perhaps you'll explain as much as you can of this business."

"This is my friend, Mr. Dan Lamont," I said. "He will bear out what I tell you, sir. But first, let me ask you to walk to where you can look into the after well——"

"Come along, then—this way!"

He led the way down to the boat deck, and made for the rail over the well.

"God in Heaven!" he exclaimed. "My men! Are they dead?"

"No, sir," said Dan. "I imagine they're asleep as you have been. They'll waken easily."

"Come to my cabin, gentlemen," said the sailor. "I'm all adrift. I simply can't understand this thing at all."

I must say that I admired the grip he had of himself, and his acceptance of what must have been a bewildering situation. He was alert and business-like as he led the way back to the lower bridge.

"Mr. Boscence," he called up to the chief officer. "The first thing to do is to get some way on the ship. Give Mr. Barr a hail, and tell him to turn out all the engine-room staff not on duty, and to send them down to—to wake their fellows. Tell them not to interfere with any of the passengers who may be on deck or in the saloons. Pass the word to such of the crew as may be stirring. Do you understand?"

"Aye, sir!"

He turned to Dan and myself.

"You'll forgive any lack of courtesy in your welcome, I am sure. You were not expected to appear in circumstances such as these. Come with me, please. We won't go to my cabin. I must look after the ship. You can tell me what you know as we go along."

We followed him below, but when we came to the smoking-saloon, and found there a number of passengers huddled like dead men round the card tables, or sprawled out on the floor, it was too much for the captain.

"It is no use. I must get the haug of the thing first of all," he said. "You'll have to tell me what it means. This morning at three o'clock I was called out of my bunk by word that a red riding-light was floating on the sea ahead. I turned out, and was immediately met by a message that had come over the wireless phone. It came from the U. S. battleship *Argonne*—or was supposed to come from her: 'Heave to immediately. Danger.' I passed the word to the bridge to obey the order, and made to follow. I had no sooner reached the chart-room—I wanted my binoculars—when—well—the next thing I remember is being spoken to by this young man—Lamont, did you say? That's my side of it. Now, as clearly and as quickly as you can—what do you know?"

With as few words as I could, I told him about Wall Street, of the mysterious sleep, and how the thieves had got away with two and a half millions in gold.

"There was something about that came over the wireless yesterday," said the captain. "It's a very mysterious thing. You say that the folk round Wall Street were chloroformed—or whatever it is—just as we've been?"

"Exactly, sir."

"Then—by thunder—they've been after the specie I'm carrying a half a million sterling in gold!"

Piracy

HE darted off through the saloon doorway, and down an alleyway, Dan and I close to his heels. He stopped at a cabin labelled, "Purser," and banged on it, trying the handle at the same time. A fat little man opened the door, and blinked sleepily at us.

"Quick, Strachan!" yelled the captain. "The second key of the strong-room! Hurry, man!"

"What's the matter, sir?"

"Damn it, man! Don't argue! Put on some clothes and bring the key of the strong-room as fast as you can. Hurry!"

He turned and banged past us back the way he had come, and up a companionway, Dan and I tagging after him. We followed him into his suite, beyond which was the strong-room. He needn't have worried about the key. Right in the middle of the steel door was a yawning hole, through which we saw, in a brilliant blaze of electric light, the disorder of smashed wooden cases.

"Piracy, by God!" gasped Sir Peter. "Piracy on the high seas—and on my ship! It can't have been done from aboard the ship—they'd never get away with that weight of gold—half a million!"

"Florins?" asked Dan.

"Florins be damned!" said the captain. "Ten-florin pieces. Sovereigns!" *

"Phew! Nearly two and a half million in American dollars," I said—the British florin standing at that time at 2.42—"just about as much as they got out of Wall Street!"

"Tell me, Mr. Boon," said the captain. "When you sighted us, was there any craft near us?"

"Nothing within forty kilometres of you, Sir Peter—and certainly nothing up to doing that distance in the hour."

"That cuts out an hour, leaving one for some

*In 1912, when Britain and the U. S. A. adopted the metric system for weights and measures, the florin of 100 farthings became the British unit of money in a new decimal coinage.

craft to do the job in. They must have been damned smart!"

Just then the purser came running in, and when he saw the strong-room door, he let out a wail of despair. Sir Peter cut the lamentations short.

"Step down to Lord Almeric Pluscarden's cabin, Strachan," he said. "My compliments to him, and will he come here at once?"

"But the strong-room, sir!—the strong-room! It has been broken into!"

"Dammit, Strachan!" the captain said testily. "We can see that. Kindly take my message to Lord Almeric. Crying won't help us."

He turned to a telephone on the wall of the cabin.

"Lucky the exchange is automatic," he said grimly, "or I wouldn't be able to get through to my bridge, I suppose. That you, Boscence? Any report from the engine-room? Good! Now the first morning watch will come on duty, and be relieved at eight as usual. Carry on!"

"The engine-room reports a good head of steam," he turned to us and said. "The automatic oil feed in the stoke-hold has been going on all the time. Ah, the engines!"

We felt the vibration of the ship's engines under our feet as Lord Almeric Pluscarden came into the cabin. I had expected somehow to see an elderly man, probably white-haired and rubicund, but the newcomer was a slenderly built, dark-skinned, dark-haired man, apparently of about forty-odd, alert in manner, and athletic-looking. I found out later that he was close on sixty.

"Hullo! What has happened, Weatherly?" he asked at once, when he saw the ravished strong-room.

"I'm damned if I know, Lord Almeric," said the captain, with a finger pointed at the spoiled door, "but that's the chief thing that has happened. How it came about—well—here's your pilot, Mr. Boon, and his friend, Mr. Lamont. They've got a story that'll take your breath away."

"Kind of you to put your machine at my disposal, Mr. Boon," said Lord Almeric. "I'm afraid you've had a cold flight. Very sporting of you to accompany him, Mr. Lamont. I'm grateful to you both. And now—this story?"

Between us Dan and I told of the Wall Street robberies, of our theories, and of our coming to the *Parnassic*. Lord Almeric asked a shrewd question or two, then Sir Peter gave a fuller account of the stopping of the ship.

"I am very much a layman in aeronautical matters," Lord Almeric said when we had finished, "and I do not know if there are any other points to be made for or against your idea of the airship—beyond those you make yourselves. I must say you put a fair case, which is considerably strengthened by this act of piracy. Whatever may be the mode of operation, we are certainly faced by a remarkable organization. But I should not, if I were you, Weatherly, dismiss the possibility of the gold still remaining on the ship. I suggest that a thorough search be made of the ship and of the passengers' baggage. You will not, of course, except my luggage from examination——"

"Surely, Lord Almeric—" the captain protested.

"I insist," said the other, "and I am sure that Miss Torrance will say the same. Miss Torrance," he explained to me—"if you can take her—is your other passenger, my niece and secretary."

"Only too glad, Lord Almeric," said I, a little taken aback at the idea of carrying a woman. "But I'm afraid we damaged the starboard float getting aboard, and if we have to come down on the way back—well—it'll be a bit inconvenient. We'll get wet, at least."

"You don't anticipate a forced descent, Mr. Boon?"

"No," I said, "but you never know your luck. Then there's the difficulty of taking off from the awning——"

"Bless my soul," said Lord Almeric, "you don't mean to say that you put your seaplane aboard on the awning?"

"I did—and I'm afraid I've ripped off some of your canvas, Sir Peter, in doing it."

"I'll worry about that, young man," the captain said, "when somebody has ripped a slab off the strong-room door, and ripped five million florins off my ship!"

He glared at the damaged door, tugging his little beard the while as if to drag from it some solution of the mystery.

"Fifty years I've been at sea," he said thickly, "man and boy, and, by thunder, I've never come across anything like it! It's bewildering—exasperating—God, it's heart-breaking! On my ship—Lord Almeric—on my ship! The disgrace of it!"

"Peter Weatherly," his lordship said, with something that was good to hear in his voice, "this piracy concerns me, as a governor of the Bank of England, very nearly—and I can tell you that for my own part not one atom of blame attaches to you."

"But I stopped the ship, my lord, and gave the blighters their chance!"

"For Heaven's sake, Peter," Lord Almeric said in an altered tone—equally good to hear—"get the ridiculous notion out of your head that anybody is going to pick a bone with you over anything you've done!"

He went over and put a hand on the sailor's shoulder to shake him.

"Be assured, old friend," he said. "It will take more than this to shake the clean record of fifty years!"

"But it's such an exasperating thing! It leaves a fellow so helpless! I'm going through the ship with a fine sieve presently, but I feel it in my bones that whoever has swiped the kopecks has got clean away. Still, it has to be done. We can't leave anything to chance."

"That is right," said Lord Almeric. "And now, I suppose I'd better be getting a start made. I shall put what you say to Miss Torrance, Mr Boon but if I know anything of her, it won't deter her from joining us. But you must have some breakfast——"

"There's plenty to eat on the *Merlin*, Lord Almeric," said I, "and if the lady is coming, and won't mind picnicking for once—why, we'll get away as soon as Sir Peter will permit us."

"I shall have to go over your boat for form's sake," said Sir Peter. "Come along. I'll do it now, and then we'll see what we can do to get you off without mishap."

Another Blow

IT WAS difficult to imagine, when we were on deck again, that only half an hour gone the ship had been peopled by folk apparently dead. The seamen were washing the decks and going about their ordinary work pretty much as if nothing had happened. If there was a tendency to get to work in pairs, it was nothing to notice, and the demeanour of the men spoke well for the discipline Sir Peter kept on his ship.

"By thunder, young fellow," said the captain, when he saw how the seaplane lay, "you're not lacking in nerve! It must have been a ticklish business." And he added vulgarly: "She's as snug as a a bug in a rug!"

"It'll be a job to get her off," said I. "I hope you won't mind putting on a few of your hands to turn her, sir?"

"As many as you want," he said, "or as many as the awning will hold and bear the weight off. I'll take a look inside—so that I can give you clearance papers——"

He went up into the body of the machine, while I had a look at what Milliken was doing. Stout fellow that he is, he had rousted out the ship's smith, and together they had patched up the float where the aluminum had parted from the framework. If a little cockled, the float was as seaworthy as ever.

Sir Peter came down from the cabin, and opened the floats.

"I have to do it," he apologized, "for your sake as well as my own."

"That's all right, sir—and if when you get to New York you need any help in giving evidence to the police, you'll find me at the National Metallurgical Bank—Mr. Lamont and my mechanic, too."

"Thanks, young man," said the sailor. "Now about these hands you want. Here you—Clarke!" he said to a seaman who was standing by. "Nip along to the officer on duty. My compliments, and will he kindly muster as many hands aft as he can spare?"

"Aye, aye, sir!"

I will say for the British seaman that he is a handy fellow. The *Merlin* was no small weight, but Milliken and a quartermaster, with the aid of a score of men and a few rollers, soon had the seaplane round with her engine pointing to sea on the port quarter. It was now a question whether we should risk taking off with our passengers aboard or get safely afloat—which was not at all a certainty—and pick them up from one of the ship's boats.

Lord Almeric appeared with his secretary, and she—well——

If I had thought of the secretary at all, I had thought of her as one of those efficient women, hard, competent—the sort of woman one can admire for qualities one would rather see in men. But Miss Torrance was just sheer girl. The littlest thing, until you got a good look at her, and then you saw that it was her ways rather than her size that gave the impression. She had the same clean look as my *Merlin*—silver and blue—only her hair was gold—and there was nothing the least bit cold about her. I was willing to bet that she was as competent as any he-woman alive, for when I took hold of her neat little hand on Lord Almeric's introduction, I was reminded somehow of Milliken's clever fist.

I spoke to Lord Almeric about taking off.

"I take it that you don't think you'll come a purler?" he asked.

"There's a good chance that we may," said I. "I shouldn't like to have a lady aboard——"

"You will make me feel extremely uncomfortable, Mr. Boon," Miss Torrance interposed, "if you don't treat me exactly as you would a man. We won't sink, if we do capsize?"

"Oh, no."

"Then it seems to me that we ought to risk it. Sir Peter has been delayed enough without having to put off a boat for me. Please don't consider me."

I looked into her eyes. She was as genuine as the Koh-i-noor.

"Thank you," I said. "Will you please step aboard, then?"

We said our good-byes, and we all climbed aboard save Milliken, who stood on a float to swing the propeller and to give the signal for release. The score of men took hold of her wherever they could. Milliken swung the propeller. Contact! Full throttle. The *Merlin* gathered strength and began to slide. I waited until the ship began to rise on our side, then dropped my hand to Milliken—and we shot out over the water. Next moment we were circling the *Parnassic* to a cheer that was led by Sir Peter Weatherly himself, who stood sturdily on his damaged awning, and waved his braided cap in hearty farewell. The great ship began to gather way as we sped ahead of her.

Milliken climbed through the hatch with his usual air of complete calm, and began to be busy with hampers of food. Presently, eating a sandwich the while, he silently ousted me from the pilot's seat so that I might break my fast.

Naturally the main topic of conversation as we ate sandwiches and drank hot coffee was the piratical raid on the liner, but we soon exhausted the subject for lack of explanation of the mysterious sleep, and Miss Torrance then wanted to know what everything on the *Merlin* was for. Old Milliken, with a grin all over his ferocious mug, nodded at the wireless set. It was a bright idea and, having lowered the aerial, I fixed the receivers over her ears, switching into the phone attachment.

"I can hear some one talking," she laughed delightedly, "and he's got the loveliest gruff voice! Oh, take this quick, somebody—something has happened to another ship!"

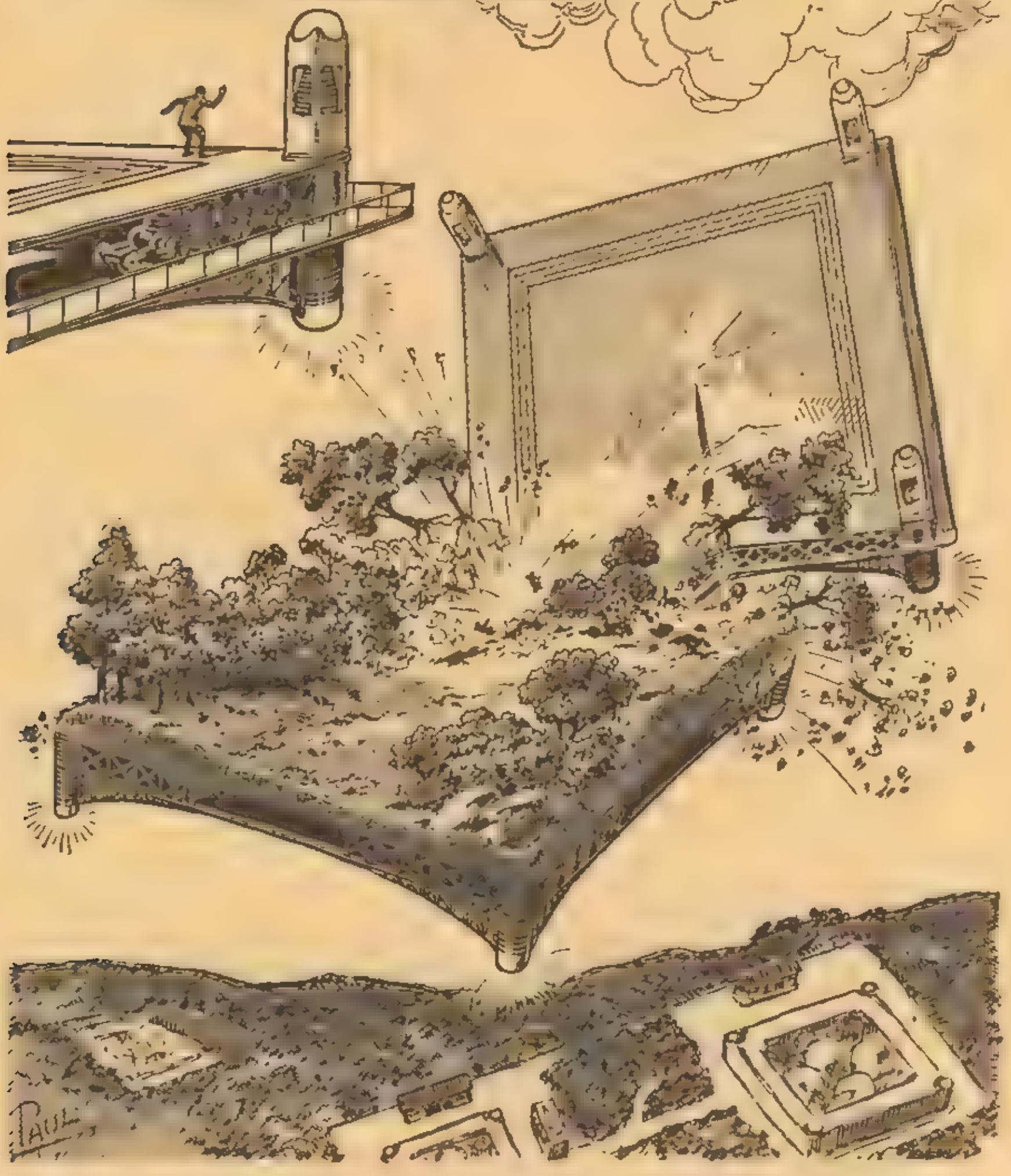
I stopped her from taking off the cap, and switched into the open receiver.

"Yes, sir!" came the harsh voice, with an unmistakable New England twang. "U. S. oil carrying steamer, *Westbury*. We were slowed down by a red riding-light floating ahead of us, and a message came from the battleship *Argonne*, telling us to heave to because of danger ahead. At eight bells of the middle watch, sir. Since then we don't know a dern thing of anything, except that our forrard tank is short of three thousand litres of the highest grade aviation spirit by the gauge. Yes, sir. And there ain't a man on the ship, sir, that can say what was doin' in the last two hours. An' what I wanna know, sir, is—what the roustin' hell's bells of Jeeroosalum the United States navy's plain' at

(*Continued on page* 87)

Islands in the AIR

BY
LOWELL HOWARD MORROW



Somehow the momentum of the islands could not be checked. Edge to edge they met. The detonation was deafening . . . Blue, green and yellow fire enmeshed them for a moment before the great mass rushed down.

CHAPTER I

An Astounding Plan

"WE CAN control the laws of gravitation and perform new miracles."

My good friend, Professor Gustave Steiner, was speaking, and for that moment I pondered his remarkable words.

"Such an attainment would overshadow all else in the realms of science," I observed casually.

"Already the problem has been mastered," asserted the professor solemnly.

I gave him a startled look. He gazed back with calm assurance, stroking his pointed beard as was his way when discussing a serious subject. Had his astounding declaration come from any other source I would have treated it as the idle mutterings of a diseased mind.

"Has been mastered?" I repeated incredulously.

The professor nonchalantly lit a cigar, puffed silently a moment and eyed me speculatively.

"Absolutely mastered," he answered finally. I stared. "But it will take capital to perfect the system," he added timidly.

I understood the professor. He reversed the time-honored maxim by having more brains than money. Still I could not help reasoning that this time his mighty intellect had slipped a cog. How could one upset the basic law of the universe? It was impossible, absurd. However, the savants of two continents did obeisance to Professor Stiener. The furore caused by his lecture on cosmic energy, delivered at Heidelberg, was still fresh in mind.

"I see, my boy, that you doubt my claim," he went on presently.

"It is so astonishing."

The professor smiled tolerantly. "It is not astonishing when you know how to harness the forces of nature, my boy." He rubbed his hands together gleefully. "A few known principles well chosen, an opportunity—and there you have it."

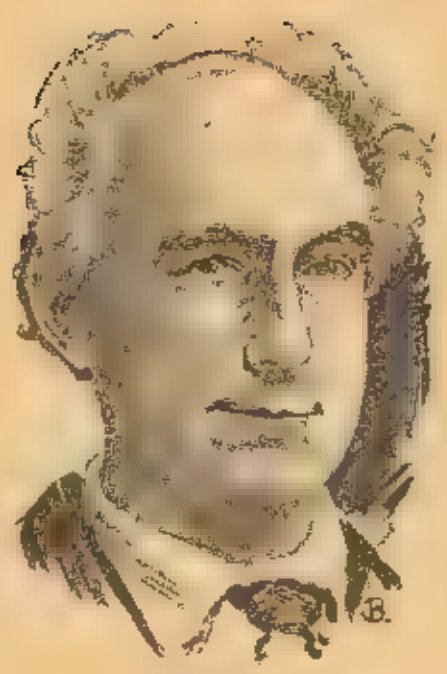
"And you have overcome the gravitational pull of mother earth?"

"Nothing of the kind, my dear boy; I have but neutralized it."

"Why, man alive," I cried, "such a thing would send this old globe wobbling through space like a drunken man — leaderless and beyond control."

"Precisely. But I propose to control gravitation locally."

Again I stared. Was the professor going crazy? Was he breaking under the strain of overwork? I recalled his sister Greta's remark to me that she feared some day he would lose his mind, inasmuch as both his father and his grandfather had ended their days in a madhouse. But as I gazed steadily into his calm blue eyes I read no sign of insanity there. Nothing but steadfast confidence.



LOWELL HOWARD MORROW

"Locally," I echoed at last, staring at him blankly. "And for what purpose?"

"To build islands in the sky."

"Islands!" I gasped.

"To be sure, my boy. Do you not realize the need of such things? Airplanes are creatures of the air—are they not? Therefore they should fuel in the air, and the beacons set to guide their course should shine in the element through which they pass."

"That is true," I assented, catching a faint glimmering of his stupendous scheme. "But what is to hold your islands in place and keep them from blowing away? And will they not become a serious menace to air travel rather than an aid?"

"By no means," he replied confidently. "I will not only control gravitation, I will also use its force as a repellent."

"A repellent?"

"Exactly." The professor drew his chair nearer and leaned toward me with shining eyes, his hands spread out comprehensively. "Instead of attracting objects to its center the earth must be made to repel them," he continued in a low voice, glancing furtively about the brilliantly lighted room, then at the open windows where the breeze stirred the curtains lazily. "I have invented what I call a gravity repeller, which causes the gravitation lines of force to bend through 180° and lift an object away from the earth with the same force that it would ordinarily be attracted."

"I understand," I said doubtfully.

"Well, then we have only to perfect my device and operate it on a large scale."

"But that would throw the world out of balance and destroy all life"

"Don't be alarmed, my boy," went on the professor, smiling complacently, "as I have

HERE is one of the most extraordinary air stories that we have read in a long while. It is sure to arouse your wonder and excitement.

One of the important and most revolutionary inventions, which is sure to come about sooner or later, is the control of gravitation. When we have conquered gravitation, man will be set free in earnest.

The slavery of weight, which chains us to this planet and to the ground, is far more serious than we appreciate, simply because we have always been "earthbound". But, sooner or later, it will be possible to bring about such conditions as our author describes so vividly in this excellent short story. When it does, aviation will be helped tremendously, and indeed the conditions of our entire world will be revolutionized literally.

intimated I do not propose a blanket control. I shall tap this energy only in spots for the benefit of my—that is—our islands."

The Professor's Fear

THE professor's face glowed with enthusiasm as he looked at me. I saw that he was looking to me for funds to further his experiment. As the goddess of fortune had blessed me with more than my share of riches and I loved the eccentric professor I listened sympathetically. I may say that my interest was somewhat heightened by my friendship for Greta, who was a skillful air pilot and who had given me many pleasurable rides in her plane which embodied many of the professor's radical ideas of airplane construction.

"What do you want me to do?" I encouraged.

"Well, Walnut Ridge is a good place to start."

"Walnut Ridge—why that is away out in the wilderness."

"Of course, but that is where we want to start—away from everybody. You see I have not been idle since coming to America. While you were away on business I was out looking the ridge over. I would buy and fence a section of the west end of the ridge perhaps a half mile in length by a quarter of a mile in width. There would be machinery to install, you understand, and an island to manufacture—perhaps many of them."

Again I stared at my friend, and he smiled back in his inscrutable, confident way

"And the islands—what will you do with them?"

"I shall place them in the sky and anchor them."

This was too much for my sense of humor and I laughed in spite of myself. Manufacturing islands and anchoring them in the sky was such a ridiculous proposition that I treated it as a big joke. But now the professor was frowning and a cold light flamed in his eyes.

"You think me joking," he said with quiet dignity, "but I am not. Already I have proved my theory."

"Forgive me," I said contritely. "But my God, man," I added, "your proposition fairly stuns me. It will revolutionize aviation, astronomy—everything pertaining to the heaven above us. Have you worked it out alone and does no one know your secret?"

A shadow came over Professor Stiener's fair face. For a long minute he looked down at the floor, then raised his head with a jerk.

"I believe that no one has stumbled onto this thing but me. However, there is Van Beck. You know something about that confounded Dutchman, how that while I have worked with him and discovered much for the benefit of our fellowmen, he also has pestered me, often garnering the fruits of my toil. You know how he has disputed my claims on several occasions while posing as my friend. The devil take him. I wish I was sure."

Professor Van Beck, a small, wiry man with a bristling black beard, was Professor Stiener's closest rival in the realms of science The men, differing widely, still had much in common and had been closely associated in Europe before Van Beck took up his residence in the United States. But always Van Beck had managed to gather most of the rewards to himself. And now that I had invited Professor Stiener and his sister to make me a long visit, the irony of fate had guided him to the faculty of the university where the great Dutchman labored

"You haven't said anything about this to Van Beck?"

"Not a word. But he is always trying to worm something out of me. You know what a persistent way he has—his strange personality—you like him and yet you hate him. And last week while I was conducting my experiments out on the ridge I spied a fellow far across the valley looking in my direction through a field glass."

I certainly sympathized with Professor Stiener's efforts to stop his rival. The little Dutch scientist seemed to exercise some sort of an influence over Greta. She was often seen in his company and always took his part whenever he was held up to scorn by her celebrated brother.

"Your words imply that there is much still to be done; that you have proved only that the theory is feasible."

"That is just it, my boy—perfectly feasible."

And then drawing his chair still nearer the professor told in low tones many of the details of his marvelous plans, but as he talked on his voice rose on a wave of enthusiasm and more than once I had to caution him for fear some servant might overhear.

The night was far advanced when at last he finished and rose to retire. His face shone with ardent hope as he bade me good night and ascended the stairs. I stared after him until he passed from view, and then too much upset by his astounding revelations to sleep I went out to take a turn or two about the lawn in an effort to get the thing thoroughly analyzed before committing myself to sponsor a scheme that seemed to be the most impossible thing ever conceived by the mind of man.

As I went down the porch steps I fancied I heard a slight scraping noise from the direction of my study window. I looked that way and for a moment thought I saw a vague shadowy form emerge from the deeper shadows and disappear over the porch railing. But as the sky was overcast and the gloom deep in that particular quarter I dismissed the notion.

For more than an hour I paced up and down the drives and across the lawn thinking over the professor's words. The result of it all was that I finally concluded to back him financially.

CHAPTER II

The Secret of Walnut Ridge

WE HAD no difficulty purchasing the desired tract on Walnut Ridge. We enclosed it with a high, woven wire fence topped by five strands of barbed wire. Our workmen were selected carefully, housed to keep their mouths shut. As secretly as possible the material of divers sorts was collected on the ridge and the actual work of construction began. The few reporters and other curious humans that found their way out through the wilderness to the plant were sent on the wrong trail by the report that we were about to test out special iron mining machinery and make borings for other minerals.

While our electricians under the able direction of a little red-headed Scotchman named McCann were familiar with all the workings of the intricate machinery, motors, transformers and so on, no one

understood the complete working principle save the professor himself, although McCann, being canny and deep, I credited with understanding more than he let on. Certain it is that the professor was in love with him and trusted him implicitly. The professor was everywhere, tireless, secretive and often provoking. Sometimes he worked far into the night when all others had sought their beds.

As for myself I wandered about from one section to another in a maze of doubt and wonder. The whole thing was too deep for me, and I thought so much on the subject that it began to rob me of my sleep. Besides, the Professor's taciturnity finally began to irritate me. Although I was furnishing all the money he did not offer to divulge the inner secrets of his scheme. My wonder was intensified as the sky islands, two in number and located one near each end of the enclosure, began to take form. These islands were fashioned out of structural steel, were square in form and about one hundred yards from rim to rim. Although their superstructure was built of light-weight materials, each must have weighed many thousands of tons burdened as they were with machinery of many kinds—oscillators, condensers, motors and divers other machines whose names and offices were known only to the Professor.

Besides the machines on the islands, others were sheltered by small buildings on the ground. At three corners of each island were short mastheads with powerful lights and at the fourth rose a taller masthead bearing a revolving airplane beacon. I knew that the Professor proposed to raise this great mass into the air by wireless control, to suspend it there and raise and lower it at will. Having had the theory dinned into my ears for many days I naturally absorbed some of the faith of its inventor, but as the work progressed I began to have misgivings and to fear that, after all, his mind was unbalanced.

Of course the public was not admitted to the grounds. I began to suspect that many doubted the iron machinery story, for several reporters and photographers finally came to visit us and were turned away with a sharp rebuke.

One of our first tasks consisted of clearing a landing field, after which Greta always brought the Professor and me over in her plane—a remarkable machine in its way. Although she did not understand these air islands any more than I, she criticized the Professor for evolving them and was sceptical of their success.

We heard and saw little of Van Beck, but Greta saw him often—as I afterward learned. Then one day she swooped down suddenly out of the sky, climbed from the cabin of the plane and was followed by Van Beck.

Professor Stiener glared, but Van Beck grinned amiably through his black, bushy beard.

"Sir, you must know that you are not wanted here," fumed the Professor. He turned savagely to Greta. "What is the meaning of this, Greta?"

"Why Professor Van Beck is an old friend," she said innocently. "I just landed here without thinking. I beg your pardon, Gustave. We will be going."

Greta made for the plane. Just then McCann ran up with a blue print and asked the Professor a question.

"Certainly, certainly," chimed in Van Beck. "We do not wish to trespass."

The professor had been poring over a large blue print spread open in the sun when he rose to rebuke his Dutch friend. Now he walked away with McCann and I followed. We were absent but a few minutes, and when we turned back instead of seeing Van Beck getting into the plane I observed him turning away from the blue print and I thought I saw him hastily thrust a black object into the capacious pocket of his long black duster. There were no workmen near at the time and as I had no witnesses and could not be sure I resolved to say nothing about it. Smiling graciously Van Beck ambled to the plane, took his seat by Greta's side and they were off with a wave of the hand.

The Professor was furious over the unexpected visit

"What is Greta thinking about?" he stormed. "Has she no respect for her brother and his work? Please God he didn't learn anything—but maybe he did," he added fearfully. "He has a devilish way of learning things. What do you think?"

I assured him I did not think it likely any of our secrets had leaked out in so short a space of time. And I was in no amiable mood. Van Beck seemed to be exercising an hypnotic influence over Greta and I resented it bitterly. However, shortly afterward I had reason to be thankful for the episode and the resultant lecture which the Professor gave Greta. She was seen less often in Van Beck's company and devoted herself closer to me and the work of her eccentric brother. Nor did we see any more of Van Beck nosing around. He was seen but little about town and seemed to keep pretty close to the class room. Near mid-summer we heard he had obtained a vacation and had gone abroad for a time

The Professor breathed a sigh of relief. We are rid of him for a time," he said gratefully. "Before he returns the danger will be past."

A Disappearance

WEEK after week rolled away, the mellow days of September were at hand and the islands were nearing completion. Then one morning as the Professor and I stepped from the plane we were met by McCann with the startling intelligence that the office had been entered during the night, but a cursory examination had revealed nothing disturbed.

The Professor stared blankly a moment, then rushed away to the office. We followed breathlessly.

The outer door had been forced, its lock being broken, but beyond this no damage had been done so far as we could discover. Anxiously we ran over the papers—not a print was missing.

"Nothing gone," said the Professor. "Yet the place has been entered. What for?"

"Perhaps the thief was frightened away before he could grab anything," I suggested.

"I don't see how he got in," said McCann. "I have made sure that every guard was at his post throughout the night."

"I hold you personally responsible, McCann," said the Professor severely. "See that it doesn't happen again." And with that he turned and walked away leaving McCann with a crestfallen air.

I felt sorry for the Scotchman. He seemed devoted to the Professor, and I believed the rebuke to be undeserved.

The ridge which the Professor had selected for his daring experiment was the center of an unbroken wilderness far remote from any human habitation. It was fifty miles from the university, and was a land of no roads and but few dim trails. The ridge dropped away to the north and to the south in a series of valleys heavily clothed in virgin timber. It was admirably situated for a secret enterprise. The vicinity was never visited save by hunters, and this was not the hunting season. Even the route of the mail planes was far to the north.

One night not long after the forced entrance to the office McCann disappeared. The chief electrician had called at his office as usual the next morning. He was not there. Nor could he be found anywhere on the grounds. As it was against the rules for any one to leave the premises under any circumstances, without a permit from the Professor, we stared in blank dismay. A careful search of the surrounding woods brought no clue. We followed up a rumor that he had been seen in his car driving out of the city at daybreak, but we could not verify it.

The Professor, wild with suspense, anxiety and remorse for having criticised his faithful aid, rummaged among his papers and discovered that the blue prints covering secret parts of one of his giant condensers were missing.

The scene that followed I will not attempt to describe. The Professor lost his head. He raved like a madman, condemning everybody, threatening everybody. He said he would give up the work, commit suicide and be through with it all. But at length he grew calm, asked my pardon for the outburst and ordered the work to go on.

"I simply can't believe that McCann is a traitor, Bob," said the Professor. "I'd stake my life on his faithfulness. He may be ill. He may be wandering about with an unbalanced mind. You know this work always did affect him profoundly. He has a great brain, and I really believe that he understands this work as well as I do. It is a pity if he has become unbalanced. But sane or not I fear his absence means trouble for us."

The revelations of the next few days seemed to justify the Professor's alarm. The press of the city carried big black headlines announcing that Professor Stiener, the great German scientist, was at work on a theory calculated to upset one of nature's laws. The exact nature of the scheme was not known, but it was said to portend a mighty revolution in air travel.

The Professor read the news and smiled grimly. He was pleased by the compliment, yet fearful of the public's premature praise.

It was about the middle of October when one morning the Professor and I, walking along the street near the university campus, suddenly came face to face with Van Beck

"My dear old pal," said the Dutchman, taking the Professor's hand which had not been offered and squeezing it cordially. "I have just returned from a visit to my old home across the sea. Yes," he went on eagerly without waiting for the question, "I had a fine time—a very fine time." The Professor smiled sourly. "And now may I ask how you are coming on with your—that is—er—this new scheme of yours?"

The Professor frowned. "I remember your uninvited visit, Van Beck," he said icily.

"Beg pardon, Professor Stiener. Greta took me to that wilderness retreat. It was a mere accident on my part, I assure you. But now that I know something tremendous is being evolved by your great brain I naturally am anxious over it and I wish you well."

"Thanks, Van Beck."

"Often you and I have worked together and together have reaped the reward."

"You mean you have reaped it," rasped the Professor.

"You wrong me," remonstrated Van Beck.

"I don't want your help, Van Beck. My good friend here, Bob Bookman, is furnishing the funds and—"

"To be sure, to be sure," cut in Van Beck pleasantly. "I am glad for your sake and for Mr. Bookman's sake. It is a rare privilege to aid in any work of yours."

"We are busy," said the Professor ignoring the compliment. "You must excuse us."

"Certainly, Professor Stiener. But if at any time you feel the need of assistance you know you can count on me."

"Damn that infernal Dutchman," said the Professor as we walked on. "He has a great mind, a wonderful mind, but he is a rogue. And yet," he added reflectively, "he has served me in the past though he also has beaten me. I despise him and still like him. But I wish he'd let me alone now," he finished irritably.

This was a vain hope, for during the next few days Van Beck crossed the Professor's path frequently, became more insistent, more diplomatic in his search for information, taking the Professor's rebuffs with a smile and maintaining an air of the utmost friendliness. And at length he wormed the main secret from the Professor—the momentous admission that the latter was striving to overcome the laws of gravitation.

CHAPTER III

Into the Air!

IT WAS not long afterward that the location of our plant became known to the public. A strange plane, flying low, circled the field and took its own time getting away. People eagerly responded to its news. During the next week automobiles by the thousand braved the rocky trails leading to the plant, and folks by the hundreds peered curiously through the wire fence at the manifold and mysterious preparations to harness nature's mighty forces.

The newspapers of the entire country teemed with conjectures and declarations as wild and fantastic as the Professor's scheme itself.

Airplanes began to circle and maneuver above us during every hour of the day and night. But we spread canvasses over the most important machinery where the men worked unobserved.

By the fifteenth of November everything was at last complete. I shall never forget the day, the crazy delight of the Professor as he went about testing the intricate machines, the air of awe and mystery that kept the workmen silent, and my own wonder, enthusiasm and yet doubt that the experiment would succeed. Thus far the project had cost

me a mint of money which I did not begrudge, if the thing only proved a success. But how could such a thing succeed?

I roamed about over the great artificial island, looking over the wonderful oscillators, condensers, transformers, and so on. I knew their office but vaguely, knowing only that they transmitted the power to operate the gravity deflector. Their number and size were bewildering surrounded as they were by divers other machinery whose nature I could not guess.

At each corner and in its center the island rested on a solid copper pier ten feet in height and about a foot in diameter, and at the points of contact on the island itself were magnet-like apparatus. On the ground near each pier was a dynamo whose current was supplied by a central power-house. There were also many amplifiers and projectors of peculiar construction. The whole fabric beneath my feet with its network of wires and steel and machinery was so heavy that the idea of projecting it into the sky and holding it there suspended like a great captive balloon without the aid of gas or lifting wings appalled me. Only my faith in the Professor's uncanny power made me hope it might succeed.

Not a plane was to be seen in the sky save Greta's which kept diving and circling far above us, and it was still too early for the curious crowds from town. Except the workmen, the Professor and myself there was not a soul in sight. The Professor confided to me that he was glad we were alone. I understood. If the thing should fail he would save himself from the ridicule of the world.

When all was in readiness the Professor, looking very grave and a little pale, beckoned to me silently, and I followed him up the ladder on board the island. He had just been over the whole thing thoroughly and had given last minute instructions to his engineers.

"If anything happens, Bob," he said quietly, "Greta will pick us up with the plane. But I don't look for anything untoward to happen," he added confidently.

We paused near the center of the island. The Professor gave a final look around and over this marvelous child of his brain.

"God, how I wish McCann were here to share the glory with us," he said sadly. "Poor McCann, some dire tragedy must have overtaken him. I would give anything now to recall my harsh words."

Then he put a whistle to his lips and blew shrilly. For the fraction of a second nothing happened, then the fabric beneath us trembled. There was a hiss, a sputter, an upward flash of fire, a shower of sparks through the frame-work, a drone of the dynamos, like the hum of a million bees, and we began to move. Slowly, almost imperceptibly at first, then we shot upward with sickening suddenness. Up, up we went on a level keel. I felt but a slight tremor and only the rush of air proclaimed that we were rushing heavenward with terrible speed.

The Professor grabbed me and hugged me in a frenzy of joy, for the time being too much overcome to speak. And all I could do was to stare at him in speechless wonder. Suddenly he drew back and touched a button on the corner mast. Instantly our motion was arrested. The island rocked gently a few times, then came to rest without a jar. The altimeter showed us to be up one thousand feet. Looking down through the steel work I saw the workmen staring up at us. There we rode in the air as steady as a duck on a mill-pond, sustained by the invisible force of gravitation.

Greta landed her plane, rushed up and embraced her brother.

"Oh, Gustave," she cried, "I did not think you could do it—I am so sorry that I ever doubted you; that I—" She paused as she looked away a dark shadow in her eyes.

"Never mind," said the Professor.

"Oh, Bob, isn't this wonderful?" she said turning to me.

"It is more than that. At a time like this, words fail us."

"I am wondering whether I dare try a little stunt," said the Professor. "And do you folks know that we could go on up to the moon if we wanted to?" he added mysteriously. "But enough for today. We will return to the earth. I see other and greater marvels just ahead of us."

As the girl and I gazed in awe at this remarkable man he manipulated the machinery again and we descended slowly and easily landing exactly on the points of the piers. The workmen clustered around their employer showering him with congratulations.

The Professor Triumphant

WELL, that night I couldn't sleep for thinking of that wonderful exploit and the fact that the Professor hinted at other wonders hidden up his sleeve. Would man ultimately conquer all the laws of the universe? Was there no limit to his power? Preposterous as it seemed I answered these amazing questions in the affirmative. Fulfilling the scriptures, man was to become as gods.

And now the Professor, athrill with triumph and enthused over the future outlook of his aerial islands, invited everybody to come out into the wilderness and witness man's latest conquest over mother nature.

The day was set and widely advertised. Scientists from all over America were tendered special invitations, as well as many statesmen. The professor sent Van Beck a messenger urging him to be present.

The whole nation was dumfounded by the announcement, but almost every one treated the matter as a huge hoax and questioned Professor Stiener's sanity.

But they came by thousands—coming by plane and automobile, on horseback and on foot. The woods surrounding the high fence was black with people. But, of course, no one was permitted inside the fence. Even Professor Van Beck, who seemed to consider himself a special guest, was forced to peer through the fence and reach between its wires to give the Professor the handclasp of congratulation.

"My dear Professor," he said with an injured air, "one would think you would make an exception in the case of an old pal."

"There can be no exceptions," replied the Professor tartly.

"Do you expect forever to keep this great secret locked in your own breast?"

"Until every feature is protected by patent," returned the Professor meaningly.

I could see that this answer cut Van Beck to the quick, but he said nothing and in a minute he moved away shaking his head and mingled with the crowd.

The demonstration was a success in every way. Both islands were raised simultaneously. They were partly lowered, then raised again alternately, shot into the air until they appeared as small dark specks in the blue sky. And finally they were landed safely and noiselessly on their piers.

The Professor was wild with enthusiasm and joy. He bowed again and again as the milling crowds cheered madly. Often he ran over to Van Beck where he stood with his face pressed against the wire and boasted of the complete success of his great venture. It was plain to be seen that the Professor was gloating over the Dutchman. At last he had succeeded in making and utilizing a great discovery without his butting in. But Van Beck did not stint his praise.

"I rejoice with you, my friend," he said heartily. "Great wealth and endless fame are yours. It is marvelous, marvelous—and it is just."

The immense crowd left reluctantly. Long after nightfall knots of excited and awe-struck people lingered about the refreshment stands and stood peering curiously through the fence discussing the miracle which had taken place before their eyes.

But there was a fly in the ointment of the Professor's happiness—he bitterly regretted that McCann was not there to witness the climax of his work.

Owing to the success of the demonstration and the fact that the press of the entire country had spread its description far and wide, the Professor seized the opportunity to launch a stock company to exploit his invention whose scope and possibilities, he averred, were well nigh limitless. But he pointed out that its initial work would be in the field of the airplane. A line of his islands would be placed along every plane route. Machines would refuel and make repairs in the air. In the air, the islands would act as guideposts by day, and at night their beacons would flash out to cheer and guide the aviators on their way. Should storms arise the islands would be shot above the storm, and here in a haven of refuge the plane could rest and make necessary adjustments and repairs if need be. Its passengers could leave the cabin for a few minutes, walk about and procure refreshments and many luxuries right on the island.

"And that is not all the wonders I have in mind," said the Professor with shining eyes as he unfolded the plan to me. "Think of an airplane without any motive power. I am not thinking of gliders," he added with a deprecatory wave of the hand. "I am thinking of an airplane sailing through the air without any motor or other visible means of locomotion, controlled by power stations on earth which can be fifty miles or more apart, through the medium of my device located on the plane. The future plane, disabled in the air, will not fall like a plummet and crash, or have to glide down and make a forced landing for repairs," he went on eagerly. "It simply will radio to the nearest hangar island, a repair plane will then slip off through the air, hitch to the nose of the disabled plane and tow it to the island just the same as cripped autos are now towed to a garage."

Accustomed as I was to listening to the wonderful plans of my friend I could only sit and stare dumbly over this new scheme. Where would that mighty brain finally lead this man? And for the first time I began to fear the final results of his work. If he were able to perform such miracles they might lead him on and on to new fields and triumphs until grasping unseen and undreamed of forces he might innocently usher in a planetary catastrophe.

CHAPTER IV

Evil Premonitions

THE stock of our company—known as the Stiener, Bookman Airways Inc.—took the market by storm. In less than two weeks every share of both common and preferred was sold, and had I not been in on the ground floor with a large block of stock I would have considered I had lost a great investment.

Although Van Beck, whenever we ran across him—which was not often continued to voice his praise of the Professor's latest invention, he took no stock in the company so far as we were able to learn. Although the Professor made no complaint I saw that his pride was hurt.

During the next week we were head-over-heels in work. What with perfecting the plans of the new organization and daily trips out to what the Professor termed the mother plant we often worked twenty hours at a stretch without rest. I had put my whole soul in the venture, as well as most of my fortune, but the closer I became associated with the Professor the more secretive and mysterious he became. I thought I had earned the right to know the innermost secrets of his plan which was to revolutionize the world, and Greta agreed with me. At last I faced his reticence with open rebellion.

"Tut, tut, my boy," he said soothingly. "Of course you have a right to know and you shall know. I will explain all."

"When?" I demanded harshly.

"Have patience. I have postponed my revelations to you that I might give you other and greater surprises. I will carry out other experiments soon and then I will make you master of all."

"Do you not realize that your delay to give me all details might easily wreck the whole enterprise? Suppose you were to die—who would carry on?"

The Professor stroked his beard thoughtfully.

"Perhaps you are right, my boy," he said at last. "Something might happen to me and then with my secret unrevealed posterity would lose a priceless heritage. Have the plane made ready, Greta," he continued turning to his sister. "We will go out to the plant, and then after I try out another idea of mine you shall know all, my boy, you shall know all."

I was athrill with joyous anticipation as we stepped from the plane beside one of the islands. Soon the Professor would draw aside the veil and allow me to view the pulsing heart of this marvel. And then I confidently told myself I would ask

Greta the question which long I had wanted to ask. But there was to be another delay.

"I don't know whether it will work or not," suddenly said the Professor as if to himself. He began to act queer, jumping about from one thing to another muttering and shaking his head affirmatively. "Maybe I'll smash it" he said finally. "But we shall see—we shall see. Come, my boy," he added turning to me and eyeing me oddly.

He led the way aboard the island, and Greta soared into the air. In a few minutes we had risen to a height of two thousand feet. Then Greta gave another exhibition of the unique braking system of her plane by landing on the little field by our side.

"I am going over to the other island," announced the Professor. "I shall send it into the air and maneuver it horizontally. I will even come over to visit you, my boy. I shall step from that island onto this one. But if anything should happen to me" he went on while I gazed at him in astonishment, "you must descend. Just pull this lever down and forward and press this—" He paused with his hand on the lever and looked at me steadily. "But I believe I'll have you meet me" he continued, his eyes burning and boring into mine. "It will make the test complete. Come, Greta, let's be going." He turned and clambered into the plane.

"Hold on—you have not told me how to meet you," I reminded unable to understand the sudden changes of his mind.

"Never mind," he said. "I'll try out my island first, then I'll send directions by Greta."

In another moment they had zoomed into the air leaving me alone aboard this strange contrivance of the sky.

As they winged away a sudden feeling of loneliness assailed me not unmixed with misgivings. My eyes roved about me. I had but a vague knowledge of the mechanism of this craft. Its bewildering array of wheels and levers and buttons appalled me, thanks to the Professor's foolish procrastination in teaching me their use. I wondered what would become of me, marooned here in the air should the Professor crash and something happen to Greta. I knew the island could not be lowered from the ground by any one save the Professor. I looked below hopelessly. The workmen were only small dots, and the buildings and equipment of the plant looked like toys.

My attention was soon diverted to the Professor and his island. Majestically he rose into the air until he was about on a level with me. Then I saw him hurrying about over the structure, pausing now and then to oil and examine a machine, to adjust a lever and try a valve. I took up the binoculars and watched him closely. I saw that he was nervous, and the expression on his face alarmed me. His cheeks were pale, his eyes glowing like red coals and the motions of his lips told me he was talking rapidly to himself. I feared that the dreaded moment long feared by Greta had come at last.

And then as I gazed I saw about half a mile beyond the Professor something moving among the trees. Autumn was tardy in coming and most of the timber among the evergreens still retained its foliage though it was splashed with gold. As I watched the tops of the timber seemed to expand, to become strangely animated. Then they appeared to be rising to meet the sky as though they had suddenly taken on a phenomenal growth.

I blinked, lowered the glasses and hastily wiped them with my handkerchief. But as I placed them again to my eyes I uttered a cry of amazement and stupefaction, for soaring above the tree tops *was another island of the sky!* And this island carried trees and shrubs on its bosom. There was grass there and flowers. At each corner and in the center were airplane beacons the same as ours, but they were of a brilliant hue and artistic design.

A Catastrophe

I rubbed my eyes with a trembling hand. What had come over me to cause this hallucination? I had thought so much about this sky island business, had lost so much sleep over it that the thing was getting the best of my reason. I surely was seeing things. That green island over there soaring into the blue was a mirage, a fantasy of a disordered brain. I resolved to get a grip on myself and quit this business before it was too late. But as I stared again the mirage persisted mockingly, grew plainer and finally ceased its upward flight and came to rest. It was then that I suddenly discerned a figure bobbing about near the corner masthead—a small man with a bristling black beard. I caught my breath with a gasp. My God, I was beholding no mirage but the devilish handiwork of Professor Stiener's rival—Van Beck!

With sickening force the hot truth surged over me—Van Beck had stolen a march on us, after all. He had photographed the blue print the day Greta landed him in her plane. He had broken into the office, and the report that he had gone abroad was a lie and a blind. He had stolen the Professor's secret and improved it. True to form he was about to rob the Professor of the fruits of victory. The thing was unthinkable but there was the evidence before my eyes.

And now as I looked closer I saw another man on the green island. His back was toward me and he was crouched over some sort of a machine. He seemed to be working over Van Beck's directions, for I saw the latter run up to him every little while and gesticulate excitedly.

All this time the Professor was still running about making everything secure for his coming test. At last he paused and looked around with an air of satisfaction. All was ready. And then I observed him suddenly catch sight of his sky neighbor. I saw his face grow white as chalk, and he stood for a moment rigid as a statue. Then he placed a hand to his head in a dazed sort of way. Suddenly I saw him stagger forward, grip a large lever and cast his eyes in my direction. I thought he was about to try out the lateral act, to come over to me and discuss Van Beck's startling appearance in our field. In another moment I saw that his island was indeed moving laterally, but not in my direction. *He was rushing toward Van Beck!*

Overhead Greta was soaring and dipping and circling gracefully. I believed that she had not witnessed the advent of Van Beck and his island. I knew she was keeping an eye on her brother; that she would swoop down and rescue him should anything go wrong. It was evident that the Professor was about to board his rival and demand an explanation. In the present state of his mind I feared a battle between the two scientific gen-

iuses—a battle that would bring death and ruin to our cause. Then I saw that Van Beck's island was moving—that he was coming on to meet the Professor!

"My God, they have both gone crazy!" I exclaimed aloud.

And so it seemed. Even through the glasses I could see that they were rushing along at tremendous speed, but as they drew near each other Van Beck gave evidence that he did not wish to commit suicide, did not wish to fight. Evidently he was but seeking to show the Professor that he could equal and duplicate any feat of his. He raised his island, only to be followed swiftly by the angry Professor. Van Beck shot down lower, and again the Professor followed him.

By this time Greta was flying low above the Professor, and by her gestures and the agonized expression on her face I understood that she was imploring him to check his onward flight, to back away from his foe and seek safety on the plane. But the Professor waved her back with a horrible grimace and turned his blazing eyes toward the advancing island of green. It was plain that he intended to smash the creation of his rival even though he himself should perish in the wreckage. Embittered by years of Van Beck's meddling in his affairs he would kill him and wipe out the disgrace on the altar of death. I could do nothing to save him. In my excitement I ran to the very edge of my island, shouted and waved my arms frantically. And then as I gazed in the dumb agony of despair I saw that Van Beck was striving desperately to avert the catastrophe. He and his companion were working madly with the machinery, but somehow the island's momentum could not be checked. The machinery had gotten beyond their control, and the maddened Professor was coming resistlessly on. Edge to edge they met. The detonation was deafening. Blue and green and yellow fire enmeshed them for a moment, then the great mass rushed down.

I shut my eyes and reeled backward faint with horror. I heard an awful crash as they struck. I looked over the side and as the dust cleared away among the trees, many of which had impaled the falling structures, I saw the ruins of the islands.

Greta was flying wildly about above the ruin vainly seeking a place to land. Once I saw the wings of the plane become entangled in a tree top. She had difficulty clearing it, and I thought she was going to crash. I must rush to her aid. I must hurry down. But how?

I gazed about me in dismay. The Professor had delayed the vital information too long. But in my wild anxiety over Greta and the fate of her brother I must attempt the descent. I went up to the center masthead and studied the instrument board carefully. After a time I believed that I understood the lowering mechanism. I seized the lever which the Professor had indicated. I swung it over and pushed it downward. I pressed a button. And then—Was I moving? At first it was uncertain. I looked down at the earth. The workmen within the enclosure were running wildly about, waving their arms and staring upward. It was then I realized I was moving. But, God in heaven, *I was mounting higher!*

Frantically I ran here and there, pulling levers, whirling wheels, but steadily, mercilessly, noiselessly I rose into the sky. The great bulk beneath my feet was steady as a house floor. Nothing that I did affected it in any way. It was as if some great power from above had reached down and was pulling me into the heart of the universe. I wondered why some of the electricians on the ground did not notice my predicament and shut off the power, then remembered that they did not dare to, the Professor having failed to instruct them what to do in such an emergency. Besides, I realized their attention was centered on the wrecked islands and the safety of Greta.

I speculated on how long the power to operate the repellent device of the Professor's terrible machines would last. Surely, I reasoned, I must soon pass beyond their influence. But then would I fall gently back or would the gravitational pull of the earth assert its rights and suck me down to destruction?

Wanderer Through Space

EVEN as these alarming thoughts drummed upon my brain I realized that I was rising faster and faster. The altimeter soon registered ten thousand feet, and the air was icy cold. I shivered and buttoned my coat about me. Then came more alarming thoughts. Suppose that these gravity waves, which the devilish ingenuity of the Professor had reversed, reached beyond the sun! Suppose that this island should rush on and on until it should escape those waves and come under the influence of the sun or some other great star, or fall and crash upon the cold, dead moon? Or suppose it would not be attracted to the surface of any of these but would sail on and on through space—a lonely wanderer of the sky!

Again in a frenzy of desperation I made the rounds of the machines. I bitterly reproached myself for permitting the Professor to keep postponing the instructions covering the manipulation of the islands. Now all was lost. Fortune, Greta—everything sacrificed for a madman's dream.

Fifteen thousand feet by the altimeter. I was still rushing toward heaven like a rocket. My teeth were chattering and I was gasping for breath. My hands and feet were aching with the cold. In a sort of drowsy subconsciousness I realized that I would soon succumb for the want of oxygen. Soon this strange vehicle that was bearing me to destruction would become both my funeral car and my tomb. Yet there was nothing I could do to save myself. Then a strange peace settled upon my soul Why should I worry? Was I not a distinguished person? My death was to be the most unique ever witnessed by the stars. I gazed up at the cold, blue sky and laughed hysterically. What did I care? But even as I gave myself up for lost and my brain grew dull I was sensible that my speed—tremendous as it had been before—was even faster now. The thin air swirled and whistled about my ears as I fought for breath and my numb hands clutched the mast to keep from falling

As I stood there swaying dizzily I felt a jar. Somebody was calling my name—it sounded as from a great distance—and there was Greta stepping out of her plane.

Neither spoke as she helped me into the cabin, but I understood in a vague way how she had witnessed my plight and followed me. Also as in a dream came the thought that I had to thank the genius of the Professor for constructing a plane capable of such a flight.

Several minutes after we had left the island and were rapidly dropping toward the earth my senses returned to normal and looking up I saw the dim form of the island still racing on into space.

Landing at the plant we marshalled the workmen, secured tools and set out afoot for the wreck. After a weary tramp of an hour through the brush and over the rocks we reached it. The ruin of the islands was complete, and near where the edges had met, interlocked and almost welded themselves together we found the lifeless forms of the Professors within a few feet of each other. Their differences were settled at last.

"Poor old pal" I said sadly. I took Greta by the arm and turned away just as the workmen gathered up the bodies.

She was silent.

We inspected the other side of the green islands, marveling over Van Beck's originality and artistic bent. We were about to leave the spot when we heard a faint moan from above us.

Clambering up over the twisted steel we came upon a man pinned fast between two beams. We ran to him, then started back in dismay, for it was McCann. Exerting all our strength we released him. He was badly crushed but conscious. Here, I said to myself, is the secret of Van Beck's knowledge about the islands. McCann is a traitor, I thought, as I glanced at Greta reading agreement in her eyes. But the injured man swept us with a look of pleading as though he sensed what was passing in our minds.

"I'm no traitor, folks," he said weakly. "Van Beck's men kidnapped me and kept me by force. He forced me to tell all I know about the islands, and I know much." The Scotchman smiled whimsically.

"Then you will tell us what you know," I said. It was a chance to save the priceless knowledge to the world.

"Aye, aye, sir—if I can. But—" He put his hand to his chest while a paroxysm of pain distorted his features. "If—if you have but a bit of paper now—I'll tell you all I know. We'd better hurry now, for—for—"

His face became ghastly and I thought it was all over.

Madly I searched my pockets. I could find nothing but a small note book. I knew that McCann was dying. We must hasten.

As I poised my pencil above the paper the dying man made a brave effort to go on, but it was no use. He looked at us appealingly. His head sank back and he was gone.

"The great secret has died with him," I remarked.

"And I am glad," she said. "Man may aid nature's laws, but when he reverses them he must pay the penalty. Gustave's mad dream has killed him."

I gave her a startled look. She was not in sympathy with the works of science.

"Nevertheless I wish our island would drift back to earth. With it we might make a new start."

"If you love it so much perhaps I had better take you back to it," she suggested quietly.

"Agreed," I said. "The only condition I impose is that you remain there with me."

To which she made no answer then, nor has she to this day. We never looked for the island—nor did it ever return. Somewhere off in the far reaches of space it still pursues its solitary way.

THE END

IF you are a lover of science fiction and if you like AIR WONDER STORIES, be sure to see the important announcement on Inside Cover of this magazine.

HUGO GERNSBACK,
Editor.

The BEACON of Airport Seven

by HAROLD S. SYKES

The plane at the last moment climbed upward and to the right as the watchers breathlessly waited for it to clear the upper corner of the tower. There was a collision and the mass settled to the ground and burst into flames.

CHAPTER I

A Close Shave

AS Royce picked up the flash of the huge revolving beacon at Wayside he breathed a sigh of satisfaction, and slowed his motors fifty revolutions. It had been a tiresome climb to the divide all the way from Airport Six, with gusty headwinds threatening to put him behind schedule. But now the grind of another trip was over. There remained but forty miles from the summit to Airport Seven almost under the light, and a relief crew there would take charge to set the plane down at San Francisco long before daylight.

A passenger in the saloon leaned back in his leather-covered chair and yawned. "We must be getting close to Seven. I wish I had taken a berth this trip, instead of trying to sit up most of the night. There's a hard day ahead of me in 'Frisco."

"Yes, we know all about the hard days you traveling men have," a cattle buyer answered from across the big cabin. "Hopping from one city to another on these liners is a joke. Now when I hired a little dilapidated taxi-plane at Ogden one time to inspect a herd over in the Hidden Valley country, that was a ride to write home about."

"Let's finish the rubber; I want to get out and stretch my legs at Seven," spoke up a man at one of the card tables.

"Here, give me the cards; is that a pun or . . ."

"Say, just listen to those motors; I thought we were over the divide." The score of saloon passengers grasped tables or the arms of their chairs as the huge plane banked and swerved upward at an ever increasing angle. The five motors, after responding madly to wide-open throttles, now were laboring terribly under a heavy load. Bluish wing lights flashed on, reflecting upon the faces of the forward passengers peering from the long windows. Shades were being flicked up far aft of the huge wings as those in the sleeping compartments were roused by the sudden deviation.

A blinding flash drove the portside passengers back from the windows to their places and the motors eased to their customary monotonous undertone.

"What was that?" Someone asked.

"Just the big beacon light, but man, we were right on top of it!" They looked at one another in alarm.

Explanations

"MR. McCrea will see you now, said the secretary.

Tommy Royce, chief pilot, quickly arose nervously and weary

HAROLD S. SYKES

from his chair in the waiting room and strode into the division traffic manager's office with the air of one anxious to get through an ordeal as quickly as possible.

McCrea was standing at an east window, gazing out in the direction of the beacon tower on Sentinel Hill, half a mile away. He whirled as the young man entered, and fixed him with a glowering look.

"Well, Royce, out with it. Let's see what excuse you have for trying to come in under the beacon last night with the west bound passenger plane. Jameston, in the watch tower last night, told me you were flying fully fifty feet below the light until you almost reached it. The field crew thought you were going to land in the houses over there, but they heard your motors, so that won't do for an excuse."

Finally given an opportunity to speak, the pilot answered, "I don't know what the matter was."

"You don't? Well, why not? Were some of your motors going bad, or did you want to land on Sentinel Hill?"

"No sir, I picked up the beacon at the pass, and followed it in. Relief Pilot Tillotson was in the forward cockpit with me. You can ask him about it."

"Yes," barked McCrea, "I most certainly can ask Tillotson about it, and I will. But first I want an explanation from you, and it had better be a good one."

Royce stood in the center of the big room, nervously twisting the ring he wore on his left hand. "After I picked up the beacon at the pass—"

"Yes, yes, I heard that, go on."

"Well, coming toward Seven here, I looked at the altimeter and it seemed to read about right, perhaps a trifle low, but I saw the light well ahead of and below me, so I knew I had plenty of altitude. I cut the motors to sixteen-fifty at the sum-

IN the present story, our versatile author has given us quite a treat.

One of the most important and quite indispensable necessities for night flying is, of course, the aerial beacon. The aviator's life and the safety of property, depends on such beacons.

The author in the present story has woven a very clever adventure around this theme, which is as interesting as it is notable, from a scientific viewpoint.

We are accustomed to think that light rays travel only in straight lines. This is, of course, not the case. Light rays are refracted, when, for instance, they pass through the atmosphere of the earth. Thus we see the sun rise actually before it does, due to this refraction. On the other hand, Einstein in his theory, which has been proven, has shown us that light waves are bent when they pass the gravitational field of a star.

You will find the scientific part of this story particularly interesting.

mit, and closed the throttles a trifle more when we were near the beacon in order to lose enough altitude to make a landing here."

"Yes, yes, but why did you lose so much altitude? Jameston says you were flying low all the way from the point where he first picked up your flying lights. Why, why?"

"I wasn't flying low, for I had the beacon well below me until I was almost over it. Then then I glanced at the instrument board for a moment, and when I looked back the light on its next swing around was almost above me! I saw it as soon as Tillotson did, and by opening the throttles wide we just managed to scrape over the top of the hill."

"Well, of all the—. Royce, I'm going to put you on as second relief pilot for a month, under 'Ace' Howard, and we'll see if your eyes get any better. If Tillotson swears you were not asleep last night, that will be letting you down easy. If you were asleep, then you are through, understand?" and McCrea pounded the mahogany top of his desk to emphasize his words. "Good gravy! Don't you realize the plane carried more than fifty passengers and a ton of valuable express?"

"Yes, sir."

Tommy Royce turned to leave but stopped when McCrea called, "Wait, just one thing more." The manager reached into his desk for a blank form. "Take this to the company doctor and let him test you again. I want a full report from A to Z. Tell him to test your eyes particularly."

The tests were entirely favorable, although Tommy had begun to have some doubts regarding his ability as a crack pilot, after so nearly wrecking the giant air liner.

The Two Confer

TILLOTSON came back to the barracks from his interview with McCrea, wearing a very serious and thoughtful expression on his face. He hunted up Tommy and the two talked during the rest of the afternoon without arriving at any definite reason for the contretemps.

"I was watching the light out of the corner of my eye at the time it changed, old man, and I swear it suddenly blurred and then shot into the sky."

"Did you tell McCrea that?" Royce asked, as they sat on his cot in his room.

"No, I knew he wouldn't believe me; would insist we were both asleep, but I did tell him the old beacon changed her position. Little good it did. He gave me an awful raking over, and said he couldn't promote me to your place—I didn't want him to—but would leave me on as second man, and to see that some stray mountain didn't jump up and hit me in the face some day. He claimed the passengers had received the scare of their lives and that it was bad for the company, considering the new competition from the True Course line over the northern route. He expects a wigging from the 'Frisco offices."

"Probably he will get it too," Tommy answered somberly. "I wish I could understand it." Then after a pause he looked at his wrist watch. "Let's hunt up Jameston at Number One hangar and try to get him to tell us just where we were flying last night. We just have time before the west bound freight comes in."

Boundary and hangar lights at the field were flashing on as the two men made their way from the barracks past the Transcontinental offices to the southwest corner of the huge landing area. A crew of ground men was making preparations for servicing the huge twenty-ton freight plane, while the two pilots who would fly it on to Field Eight were seated on the bench before the communications building, smoking and talking.

One of the freight pilots called through the open window to the clerk on duty. "Phone up and ask Jameston if he's picked up the old wagon"

"We're too late to see Jameston tonight; he must be on duty now," Tommy said to his companion as they stopped before the building. The gathering dusk was suddenly broken by the dip and swoop of the Sentinel Hill beacon as it started on its nocturnal swing around the sky at the rate of nine revolutions per minute. The far-reaching beam dropped low to the east and west, with an upward swing of thirty degrees as it traversed the north and south, describing two giant arcs on the furthermost confines of the sky. The men watched it in silence

The communications clerk leaned out of the open window above the pilot's bench. "Jameston phoned down that he has picked up a plane way to the south, but no sign of the freighter yet. Says this ship is headed about west and will miss the field by three miles."

George Boyer, the larger of the two freight pilots, regarded Royce and Tillotson severely as they stood in front of the bench, waiting. "What's this I hear about you guys? The Field 'Supe tells me that you swiped the beacon when you came in this morning and tried to tow it home on your landing gear."

"Aw, go fly a kite." Tillotson answered. "I hope it don't fool you the way it did us, that's all"

"Boy, no ten million candle-power torch is going to fool me. When it starts jumping around off its tower I'll quit flying."

Another Mystery

THE low drone of a multi-motored plane was heard, steadily increasing in volume. As all eyes were turned to the now dark sky, Tommy perceived the red and green wing lights of a huge monoplane. The clerk called to the ground crew. "That's the freighter, boys, she's nine minutes late, and Jameston says she almost missed us."

The outline of the wings was now clearly visible to those at the field as the ship came onward at its one hundred mile an hour cruising speed and passed over the hangers. Cutting the western boundary of the airport, the craft settled in a graceful circle into the gentle evening breeze. It was once illumined sharply by the swinging beam from the beacon. A brilliant blue-white radiance had flashed over the field as the battery of landing lights were switched on and the plane settled into it with throttled motors.

"There's another good pilot gone batty", Boyer remarked plaintively, as he picked up his helmet and moved toward the craft, now coming to a stop

beside the fuel hoses. "Here he comes staggering in from due south like he's been out on a scouting expedition or a picnic. How we can make up the time he lost without a tail-wind is more than I can see." His last words were lost as he approached the plane.

"Come on, Tommy," Tillotson invited. "Let's see if he had trouble with the beacon too."

It was a bewildered chief pilot who stepped out into the radiance of work lights turned on by the ground crew. He was followed down the ship ladder by his relief and mechanic a moment later.

"Boys, I'll swear I followed the beacon true as an arrow, but when I got close it suddenly switched around to my right and I found I was way to the south."

"You're not the only one," Boyer answered with heavy sarcasm. "Last night Royce had it jumping up and down and now you've got it wiggling sideways. Of all the dizzy ideas! Here, climb in," he continued to his relief man. "I'll have to make up ten minutes that was lost by somebody playing tag with a fire-fly. Snap in to it, you ground men."

"All set."

"Fuel and oil O.K."

"Condition and controls O.K."

As the men gave their reports the Service Chief called, "Clear the props!" and then gave the starting signal to Boyer who was peering down from his high seat in the nose of the craft. The whine of the starters gave place to increasing roars of sound as each additional motor took hold. Locking his starboard wheel brake, the pilot gave full throttle to the port wing motors and whirled on the concrete service area. Under the response of wide throttles the plane moved forward with increasing momentum, showing Boyer's intention of taking off with the wind in order to save time. After a quick run the lumbering craft left the ground in a gradual upward curve, quickly banking to the west in an effort to save precious minutes. The burden of sound lessened to a hum and then died away in the star-lit sky.

CHAPTER II

The Curse of the Airport

DURING the following ten days passenger, sealed express and freight planes came and went with all the regularity of clock-work. Superintendent McCrea, who had been more than a little worried by a report from Alroyd, the freight plane pilot, that the beacon had apparently shifted, finally was able to convince himself that it was nothing more than a case of over work and eye-strain with three of his flyers. The relief pilot of the freighter had been unable to confirm or to deny Alroyd's report, having been busy at the time with a refractory fuel pump.

Tommy, Tillotson and Alroyd were driven together for mutual support in an effort to withstand the heavy barrage of witticisms from the other pilots during the first few days. Boyer was sure to take advantage of every opportunity of poking fun at the trio. As time went on they almost became convinced that the vagaries of the huge light had been hallucinations.

Then without warning, and as if possessed by an evil spirit, Number Seven beacon suddenly became a curse to be known from one end of the Transcontinental lines to the other as a siren, malicious and malevolent. Pilots who at first scoffed at the recurrent report, were soon forced to admit that something was wrong, they knew not what. McCrea, appealing for more and saner pilots, for electrical experts to put the beacon in order and for scientists to make tests of the light, bombarded the Pacific office with a barrage of radiograms.

It started again on a dark, moonless night when the west bound passenger plane landed thirty minutes late, after flying in a zig-zag course from the pass to Seven. The irate superintendent was waiting at the loading area when the pilot emerged from the cockpit. Tommy was there, having been placed upon the reserve board for two weeks, before resuming his disciplinary flights as second assistant under "Ace" Howard. Tillotson and Alroyd were handling their regular positions, as first relief and chief freight pilot, respectively.

"What's the matter, are you drunk?" shouted McCrea above the muffled purr of idling motors.

"No, sir, but the beacon would swing away to the north, and when I orientated the plane, it would turn back to the south, until I thought I had picked up the wrong light."

"Good gravy! And here I thought you men were through with all that nonsense. Don't you realize that there is not another light like that beacon within a hundred miles?"

"There's not one like it anywhere in the world," Tommy muttered from his position near the pair. McCrea, evidently having overheard the remark, whirled toward him opening his mouth to speak, then choked and grasped. After an inward struggle he sighed audibly, turned and strode toward his private hangar.

The cry of "all aboard", sent a number of interested passengers back to the machine, with an absorbing topic of conversation and discussion for the rest of the journey. McCrea had broken one of the first rules of the company when he found fault with a pilot in the presence of passengers.

Scarcely had the huge plane left the field on its westward journey, when it was followed in the air by a tiny ship bearing the superintendent aloft. Still frowning and red of face, McCrea flew with wide open throttle directly toward the source of the circling beam, which dipped and rose from its vantage point on Sentinel Hill.

The Accident

THREE times he circled the light while gaining altitude, then the watchers at the airport saw his wing lights moving rapidly toward the east in the direction of the pass, until the hill hid them from view. Jameston phoned down the progress of the flight, kept in view in the field of his telescope, and the communications clerk relayed the messages to Tommy and members of the field crew.

"He headed east for several miles, and then came back toward the beacon—now he's flying toward the pass again, but very low—now he is coming back, climbing all the time—he's turning toward the south—now back to the other side." Then the

tiny red and green flying lights appeared almost over the field, but swung away to the west as men were reaching for the switches to turn on the battery of flood lights.

After half an hour more the plane landed and McCrea strode toward the radio office with the expressed intention, flung back over his shoulder, of filing a message to headquarters that a demented pilot had been the sole cause of throwing the passenger plane behind schedule. Scarcely had he reached for a pad of forms, however, when a muffled crash and the reflected glare of blazing gasoline brought him to the loading area on the run.

The hill crest below and just to the left of the beacon was a mass of soaring flames. Madly jangling bells suddenly coming to life in the ambulance quarters were stilled again as the emergency squad roared away over the now brilliantly flooded airport, closely followed by a fire truck to which half clothed men were clinging

"It's the west bound sealed express," the communications clerk gasped. "Flying low and washed out right at the foot of the beacon!"

The superintendent dashed toward his private plane, still standing on the concrete area way. Others were hurriedly turning to automobiles parked beside the enclosure, while several men caught the salvage trucks as they emerged from the garage.

Tommy, nervous and pale, stood beside two waiting pilots, obeying, yet not giving a thought to the company rule which forbade flyers to visit the scene of a crash when other help was available. The ambulance and fire truck had crossed the wide expanse of the field, pursued by McCrea, ground hopping his plane like a monstrous grass-hopper, and tiny flashlights could be seen now as the rescue crews toiled up the steep incline.

"Which crew was flying it, I wonder." Then remembering the bulletin board under the electric on the wall, Tommy read, aloud: "'Crew 37, Sealed Express, Jones and Hillard, vice Thomas and Abernathy, west bound, 10:20 p. m.' Gee! it was Vance Thomas; he and I went through the training school together. I don't know Abernathy; he must be a new man on this division." The two waiting pilots were watching the dying flames, fascinated by the calamity which so easily might have been their own.

McCrea returned shortly to dispatch a radiogram to the western office, then following a telephone conversation with the lookout he approached the bench on which the three flyers now sat, each busy with his own thoughts.

"Well, it's too bad, boys. Jameston tells me that the ship had been flying much too low, just as yours did, Royce, when you so nearly cracked up. Thomas or Abernathy, whichever one was piloting, tried to pull her up at the last moment, but was too close to the hill"

"Yes," Tommy answered slowly, sitting forward on the bench with elbow on knee and chin in his hand. "It fooled poor old Vance Thomas just as it fooled me, but my plane can climb faster than one of these express crates. It just meant the difference between a miss and a wreck."

"Well, don't let this scare you, boys. There must be some reason for that light acting the way it has. Good gravy! There has to be a reason! I thought you pilots were going crazy at first but now I'll admit I was mistaken. I don't see how it can be the beacon, but anyway I am having oil flares placed on the hill tonight for the planes due before morning. Some extra lights can do no harm."

An eastbound passenger and a freight plane landed safely at number Seven within the next two hours, during all of which time the worried superintendent was engaged in writing out a two thousand word report to the Pacific coast office. He signed his name with a sigh and handed the last page to the radio operator on duty.

"There. I have asked for experts out on the first passenger ship in the morning. That is, if there are experts able to figure out this blankety blanked double dashed beacon."

Another Victim

OF the two remaining westbound planes due to arrive before daylight, the first was a regular express at 4:10 a.m., followed thirty minutes later by a freighter. The first missed the beacon by three miles to the north and came on to the airport from almost due west, twenty minutes late. The salvage crew watched it from the top of Sentinel Hill where the express was being sorted from the wreckage. The lookout picked up the wing lights of the freight plane to the southeast. The field was flooded with lights in an effort to attract the attention of the pilot, and the emergency spot lamp on the lookout tower was flashed skyward, throwing a bright pencil of light up until it touched scudding clouds thousands of feet overhead. In response the plane quickly veered to the north, then headed directly toward the beacon, as a moth is drawn by a candle. Ground crew men and electricians worked frantically flashing hand lights and whirling the beam of the spot. The freighter, unconscious of danger, dipped lower and lower as it drove onward. The starboard wing light was hidden by the large fuselage of the craft as it drew abreast of the landing area, heading almost directly north. The tiny red port light on the tip of the left wing and the amber tail light on the stabilizer were all that could be seen in the dark.

The score of watchers on the ground grew silent and tense as the machine held lower and lower, now heading for the base of the beacon tower. The motors diminished their song, telling those below that the pilot had partly closed the throttles, believing himself well above the beacon. Light from the oil flares on the hill crest now began to be reflected from the swiftly whirling propellers and polished metal nose cap. Flashlights were waved madly by members of the salvage crew on the hill top and then flicked off as the men sprang behind the concrete shoulder of the tower foundation, waiting for the inevitable crash.

Just when it seemed the hurtling mass was on the point of striking the outmost flare on the southern crest of the hill, the now dimly outlined shape swerved upward. The heavy craft had gained many feet in altitude at the expense of its momentum before the startling roar of wide open motors reached those waiting impotently at the service

area. Closer and closer it came to the beacon, climbing ever steeper in a parabolic curve.

"He's hung her on her props!" Someone exclaimed. Almost over the beacon and not twenty feet from it, the craft hung for a long moment in a perfect stall, nose pointed almost straight skyward. Motors and pilot had done their best but it was not enough.

Slowly a green light appeared, rising at one wing tip while the red one sank lower and lower, telling the agonized onlookers that the plane, having lost all flying speed, was falling off toward the landing area. The pilot was doing everything possible now to save his ship, settling ever faster down the slope of the hill under full power in an effort to gain his minimum flying speed of sixty miles an hour and level off before striking the ground. The distance allowed him was frightfully short. With left wing still a trifle low the craft touched the ground at a point just within the lighted boundary, bounced into the air with crumpled landing gear, then settled forward and slowly nosed over in a fog of illuminated dust particles.

A Promise From Boyer

THE ambulance and fire truck raced over the field for the second time that night, shrieking their way through the running spectators already midway to the wreck.

The fateful beacon serenely traced its bright path around the horizon, content now with dipping its beam low over the second catastrophe of the night, then turning onward to the east as if beckoning new victims to a like fate.

Eager hands tore open the emergency doors on each side of the pilots' section. A groan was heard from within as flashlights were directed into the small control cabin. The large figure of George Boyer, head down, hung limp against the instrument board. One foot was caught in the rudder bar stirrup and held him suspended. He was tenderly lifted down and placed upon an ambulance cot made ready beside the stricken craft, just as the superintendent arrived on foot, gasping for breath.

"Boyer is the only pilot in here, Mr. McCrea," one of the men announced, emerging from the inverted doorway.

"Nonsense, there must be others. An express wouldn't be allowed to leave Airport Six without two pilots and a mechanic; keep looking until you find them."

Tommy was already entering a wing door, opening from the control cabin into the interior of the huge wing. The cat walk was overhead and it was with difficulty that he made his way along the narrow forward spar and over the metal ribs. An electric lamp still burned at the first wing motor, twenty feet from the fuselage, but beyond that all was dark.

After reaching a position beyond the projecting portion of the engine housed within the wing, Royce discerned, by the aid of his flashlight, the forms of the relief pilot and mechanic crumpled beside the out-board motor. A height of only four feet through the long thick wing would make it difficult to carry the men all the way back to the cabin, so Tommy found an inspection manhole and quickly unfastened it. Then he lifted the men up through the opening.

With the crew out of the machine, cables were quickly hooked to the tail wheels from powerful salvage trucks in an effort to right the plane and move it from the landing area before others arrived.

"The men are suffering from severe contusions, but apparently no bones are broken," the field doctor declared after a hurried examination. "Take them to the hospital, boys."

"Wait a minute," said a husky voice from a cot and burly George Boyer hoisted himself to one elbow. "Where's Tommy Royce; is he here?"

"Here, George."

"Well, all I gotta say, Royce, is that I take it all back about the d . . . old beacon—what I said to you. And when they let me out of the hospital we'll see what is the matter with it if it takes all summer." He eased himself back *with a sigh*, saying, "all right boys, load me in."

CHAPTER III

Why Airport Seven?

"WHY should there be an Airport Seven," was the question mentally asked by the humdrum business man later that morning as he propped a paper against the sugar bowl and munched his toast.

The first editions carried scare-heads of the mysterious happenings, featuring the isolated airport and the beacon as the most interesting news of the day, but with only meager details. Later editions carried histories not only of the beacon and Airport Seven, but of the Transcontinental company, hurriedly prepared by feature writers for news agencies and the larger dailies.

The evening papers explained to the business man upon his return from work that same day that the Transcontinental interests had founded the New York-San Francisco line primarily for transcontinental traffic, and for that reason had located service airports at evenly spaced intervals along a great circle route between the coastal points. Short feeder lines connected some of these airports with the larger population centers along the way, offering an expeditious means of reaching either the Atlantic or Pacific coast. Passenger traffic over the line however, was only an adjunct of the fast freight and express service. The "sealed" express planes, carrying sealed compartments from coast to coast, were a link in the rapidly expanding World Corporation belt-line, inaugurated in 1932, and connecting all continents in the northern hemisphere. A subsidiary of the Transcontinental operated a fleet of amphibians on regular schedule between San Francisco and Manila, while associated European interests controlled the Transatlantic and Eurasian routes.

With seven intermediate airports between the two coastal cities, Airport Seven was arbitrarily located in north central Nevada, at a point east of Reno and south of Elko, the most desolate of all the stops along the route. Wayside had been a small western frontier town, practically deserted following the ebb of the mining tide which had washed over the west. Water was available, pumped from deep wells. Transcontinental by preemption and purchase rescued the place from ul-

timate decay, installed a power plant, erected hangars and other necessary buildings and placed a beacon upon Sentinel Hill. Still given on the older maps as Wayside, all pilots knew the place only as Airport Seven, where planes were refueled and crews changed.

Contrary to forecasts made several years earlier that planes would make non-stop flights from coast to coast on schedule, the rapid progress of aviation with large planes had demonstrated the advantage of operating with a system of division points, as used by railroads. In place of carrying useless weight by loading on sufficient fuel for a non-stop flight, the fuel tanks merely served from one airport to the next, allowing the maximum of payload. Plane crews were changed at each stop for additional safety in operating the huge multi-motored crafts, as tests had shown the superiority of using an air liner pilot at his point of best efficiency, relieving him before he became aware of fatigue.

Experts Take A Hand

McCREA's urgent appeals for aid brought not only a corps of electrical and airport illumination experts from San Francisco during the morning, but also brought a number of officials, several major stock holders in the corporation, moving picture news reel cameramen, and a horde of newspaper reporters and photographers. By ten o'clock the two sides of the field were lined with visiting aircrafts, in sizes ranging from the dilapidated single seater of a free-lance photographer to the palatial four thousand horse-power private ship of the executive vice-president, with a wing spread of more than two hundred feet.

Royce, Tillotson and Alroyd were called upon to testify as to what they had seen, and were requested to remain for the subsequent conference which took place in the drawing room of the air yacht. Electricians busied themselves meanwhile in inspecting the tower and beacon, although without finding anything at all unusual or out of the ordinary.

McCrea made a plea for a cessation of night flying over divisions seven and eight until the mysterious trouble could be located, but was immediately over-ruled by his superiors.

"No, McCrea, that's impossible," the chief executive replied. "Our two strongest competitors are looking for just such an opportunity as that would offer them. We can't afford to delay a single freight or express ship."

"But something must be done, Mr. Clark. The beacon may be alright tonight and again it may be the cause of several more wrecks before daylight tomorrow. It has cost the lives of two pilots and a mechanic already, to say nothing of three men now in the hospital, one ship totally destroyed and another damaged."

"Surely some of these operatives here today can think of some suitable safety measures. We can turn off the beacon if necessary and instruct all pilots to fly by compass until they pick up the field lights."

"No, Mr. Clark, you are subject to a heavy fine if your company deliberately turns off a beacon," declared a man at the foot of the long table. All eyes turned to regard the new speaker, John Cavanaugh, a Federal Bureau of Aeronautics inspector, who had that morning arrived to investigate the accidents for the Department of Commerce. He continued: "Until we are positive that your Number Seven beacon, which is listed upon government maps as 'type A, 62,' is at fault it must continue to burn."

"That's right," Clark replied, then added reflectively, "the Interstate Commerce Commission has been after us to install a short-wave directional radio system over our whole line, but as this is primarily a freight and express route the board of directors has been unwilling to vote such an expenditure, at least until next year. Perhaps it may be necessary to install such a system temporarily for a guide over this district. Can it be done immediately?" He turned to a radio executive beside him.

"Yes, the communications equipment at each airport can easily be supplemented with directional beam apparatus, but we shall need at least two weeks to install receivers in all company planes."

"All right, I shall remain here tonight and will know more definitely by tomorrow; see me then There is one angle of this business that has struck me as very peculiar, McCrea—do you know what I mean?"

"It must be, sir, that no east-bound pilots have been bothered by the light; it is always the west-bound planes that get into trouble."

"Exactly. Now let's draft a set of instructions for all pilots leaving Airport Six tonight, telling them what to guard against and telling them for heaven sake to watch their altimeters!"

The afternoon was spent in placing several flares at intervals on the desert between Sentinel Hill and the pass. Half a dozen men were placed at vantage points to the east, equipped with surveyors' levels, small telescopes, or binoculars, to watch the beacon and make notes on their observations.

A Night of Terror

THE first plane to be sighted from the watch tower after dark was the west bound passenger. A radiogram had reported its departure from Airport Six on time to the minute, with the crew fully informed as to all the precautionary measures to be observed.

A new moon was just dropping behind the low range of hills to the west, scarcely an hour behind the sun, when the communications clerk reported to the large crowd that flying lights had been picked up, high above the pass. The beacon swung monotonously around the sky, rising in its passage from east to south, descending as it veered to the west then up in a grand arc over the northern horizon. The brilliant beam showed bright and steady at all times.

Clark stood within the passenger area, hands clasped behind his back and occasionally addressed a remark to McCrea as he waited. Suddenly a light was seen at the foot of the beacon tower. It waved up and down, then began flashing on and off in the dot-dash of a code message relayed from the observers to the east.

"All observers report beacon light O.K." the message ran

The drone of the passenger plane was soon heard flying overhead. It landed several minutes later after gradually circling down. Following a hurried refueling and change of crew it took to the air again, fifteen minutes late. At the same time another plane was reported from the east, thought by Jameston to be a tourist ship, as the sealed express was not due for almost an hour. The pilots who had brought in the passenger craft were being interrogated by Clark and McCrea at the landing area.

"Well, I am glad that you report the light as O K., at least for this evening," the executive said. "I am inclined to the belief that the other pilots may have been at fault. Perhaps—"

"Just a moment, Mr. Clark, the observer on the hill is flashing a message. Write it down Royce, as I spell it out." The group fell silent as McCrea announced the message letter by letter and all were dimly aware of its significance even before Tommy read it aloud.

"Observer No. 1,—Peculiar refraction or parallax noted at 8:21, when beacon apparently moved down several hundred feet to angle of seven degrees below my level. Relay man at tower also apparently lower with his light in answering my message."

"McCrea, that seems impossible; its all right from here!" Clark exclaimed. "What about that other plane that was just sighted? Where is it now?" No answer was necessary, for the throb of approaching motors could be heard distinctly in the still evening air. Royce was the first to pick up the wing lights, showing just above the hill top and almost directly behind the beacon tower. The relay man was waving his tiny flashlight wildly, for it could be seen at times by those tensely silent at the airport.

"He is going to crash!"

"No, he will clear if only he won't try to fly directly over the beacon; why doesn't he turn!"

The plane, at the last moment climbed upward and to the right but as the watcher breathlessly waited for the red wing light to flash clear from the upper corner of the tower, there was an apparent collision, followed by the swerve of the free wing tip, when the mass settled to the ground half way down the dark hill side and burst into flames. For a single dazzling instant the brilliant beam on its westward swing outlined a tiny figure high in the air. The sound of the crash was not heard at the service area until the light had swung away to the north. In that instant Tommy was reminded of the first crude talking pictures he had seen as a boy in which the action on the screen at times preceded the sound sequence.

The rest of the night was a nightmare to those at the airport. The flyer who had collided with the tower miraculously escaped with only a broken ankle, owing to a new type instantaneous self-opening parachute he had been wearing. It was he the others had seen outlined in the beacon's glare, just as he was catapulted from his plane. The parachute had in a measure checked the speed of his fall before he landed dangerously close to the blazing wreckage. He was a tourist with a penchant for night flying, traveling in a small monoplane.

An emergency radio sent by the now frightened executive to Airport Six to hold all planes landing there that night, was too late to stop the freighter, already on its way toward the fateful light. After an agony of suspense the watchers breathed a sigh of relief when the plane was finally reported with five thousand feet elevation and several miles to the south. Prepared for and fully expecting a severe reprimand for bringing his ship in forty minutes late, the chief pilot was complimented by the chief executive for his excellent work; so surprising him that he later said in an aside to Tommy, that it was "almost as bad a shock as if I had washed out on Sentinel Hill."

The beacon was not satiated until it had wrecked one more ship, a private touring plane, shortly after midnight. Flying too low, under the delusion that the beacon was still below him, the pilot with his family as passengers, was barely able to clear the hill, to land awkwardly at the edge of the airport and nose over. From their cots in the now crowded emergency hospital, they reported later that they had passed Airport Six without stopping, intending to buy fuel at Number Seven to take them on to San Francisco before morning.

CHAPTER IV

The Three Investigate

A HUGE bandaged figure was seated beside the door of Tommy's room at the barracks upon his return from the company breakfast hall the following morning.

"Hello, Tommy."

"Why, hello, George, how are you? It looks as though you ought to stay in bed for a few days longer."

"No, I'm alright," Boyer replied. "This dizzy beacon business has been on my mind until I can't rest in the hospital, so I came over to see if you and Tillotson wouldn't come with me to scout around and see what we can find."

"Yes, we shall be glad to go; wait until I call him."

"I borrowed a car from one of the boys; I'll be waiting with it in front here." The huge pilot moved away with a pronounced limp.

Tillotson was waiting with Tommy when Boyer returned with the machine. A short drive skirting the edge of the fenced landing area brought them to the northern tip of the low hill on which the beacon was located.

"Can we drive around to the east side, Tommy?" Boyer asked.

"I believe so; take this road to the left. There is a dim road to that house on the east slope of the hill—here it is. I remember seeing it from the air."

The road led around the point of Sentinel Hill toward a long low adobe house lying directly east of the beacon. They came to an abrupt stop at a barb-wire fence surrounding the place. A weathered wooden gate was before them.

"The gate is locked, George. There's a big padlock on that chain around the post."

"Say, Tommy, who lives here?" Boyer, turning off the motor, reached in his shirt pocket for a cigarette.

"I've heard he is a doctor of some sort. Let's see—his name is Lawson or Larson as I remember it. He has lived here for years—was here when Transcontinental installed this airport and beacon."

"He must be a radio amateur," spoke up Tillotson, from the rear seat. "See that erection of wires between those masts? That is just the kind of rig my brother is always experimenting with on some of the short wave bands."

Boyer was deliberately climbing out of the machine. "I'm going over and talk to him if he's home; maybe he has noticed something funny about the light."

Doctor Lawson

HIS companions followed, helping each other through the fence by holding the strands of wire apart. The place appeared to be deserted as they approached, but Boyer crossed the low porch and knocked loudly upon the door. The impatient pilot rapped again, more insistently, when he was startled by a voice behind him.

"What do you wish, please?" The three turned and beheld a grey haired old man, of less than medium height. He was wearing a chemist's apron over nondescript clothing and his feet were encased in frayed carpet slippers. Sparkling blue eyes regarded them from under bushy brows.

"Are you Dr. Larson?" asked Tommy.

"Lawson, Lawson, not Larson."

"Pardon me Doctor. We saw your radio towers and thought we would drop in to see your station, if you don't mind. We are from the Transcontinental airport over the hill."

"I have no radio station. I am engaged at all times in very intricate and important scientific research and so do not make friends."

The finality of the statement caused an uncomfortable pause. Tommy decided to try a new angle.

"We are having trouble with the beacon on the hill, Doctor Lawson. It has caused a number of bad crack-ups lately." Tommy turned and pointed to the tower as he spoke. Dr. Lawson looked at it for a moment, then shrugged his shoulders.

"Have you noticed anything peculiar about the light from your house here?"

"Peculiar? What do you mean?"

Tommy felt uncomfortable under the fixed stare of the old man but replied, "the beacon has appeared to move as we flew toward it."

"Ah!"

"What did you say?"

"Nothing, nothing,—go on."

"Sometimes the light seems to swing to the right or the left as a pilot comes close to it. Several planes have been wrecked and a number of men killed because the beacon seemed to shoot suddenly into the air. I suppose you have heard of the trouble it has caused us however?"

"No."

"Have you any suggestions to offer, Doctor? Don't you think that it may be caused by refraction, as light rays are bent when they pass at an angle through water? I have even thought of what little I've read of the Einstein theory, in connection with the bending of light rays from a star as they pass near the sun," Royce finished with a smile.

"What do you know of relativity? And as for theories—bah! Why don't these theorists prove their statements? I'll tell you why—because they do not know how." Lawson's eyes glittered as he became animated. "These men, Newton, Leverrier, Michelson, Einstein, they thought they knew what to look for but they go at it wrong. They try to prove these things from the stars and by trying to measure the velocity of the ether! I can show in my researches how man can bend light in degrees, many degrees, mind you, where others observe a bending of star light during an eclipse of less than two seconds! I have done it in my laboratory. As for your beacon light—I am not interested."

The three pilots were momentarily bewildered under the tirade and before any of them could think of a suitable reply the man was gone, shuffling around the corner of the adobe building The slam of a door was followed by silence.

"That guy spoke over my head, but I bet he knows more about the beacon than he told us," growled Boyer. "I'm going in the house." He gave an experimental yank at the door knob, as if testing its strength.

"Wait, George, let's find out something about him first. This is his property and we are trespassing. I think he is crazy but he would have a right to shoot us for housebreaking if you tear down the door. Let's go back to headquarters and find someone who knows what he was talking about." Tillotson seconded Tommy's suggestion that they wait until the matter was reported to McCrea, and Boyer reluctantly abandoned the idea of forcing an immediate entry.

The division traffic manager was more than interested in the report of the meeting with Dr. Lawson, and called in Mr. Clark, the chief radio operator and the Bureau of Aeronautics inspector, to hear the story.

"How does it happen that the man is living so close to the beacon," inquired Cavanaugh.

"It's this way," the San Francisco executive replied. "I remember at the time we located this airport, we tried to buy Sentinel Hill and found out that it was part of the land owned by this doctor or scientist. However, we finally reached an agreement with him to lease a site for our beacon tower, in return for the privilege of electricity from our power plant. The underground cables were extended past the beacon to a point he designated near his house. I remember we had to put in an extra wire to switch the beacon on and off from the field without cutting off his supply of current."

"Yes," added McCrea, "he insisted upon having the meter for his extension located at the beacon tower. We send a monthly statement through the local post office and it is always paid promptly by check."

"Obviously the thing to do is investigate this man's laboratory or whatever it is he has in the house." Clark regarded the group thoughtfully for a moment before he continued, "Royce, Tillotson and Boyer, you three having found this lead ought to be the ones to return tonight I think." The men nodded eager assent.

"I should like to be a member of the party," said Cavanaugh.

"Yes, I think you should go, as you have authority as a representative of the Department of Commerce to enforce any orders for the safety of the company's planes. But I can't for the life of me see how this Lawson is able to throw our planes off their course. It is becoming ridiculous; only this morning a man asked for permission to install a portable television station on Sentinel Hill, to transmit close-ups of the next crash over a nation-wide chain of stations! So you men go as far as you like tonight. Anything to stop this nonsense."

Determined Action

THE beacon awoke with an unwinking glare and started its continuous round of the sky as the three pilots made their way with Cavanaugh along the dim road to the gate. No light showed from the adobe house as the sky grew dark and the only sound was an even undertone coming from the airport where a liner warmed its motors beyond the hill.

The men approached the house in silence, making their way to the side door which Dr. Lawson had used. Shades were tightly drawn over the windows but sounds of someone moving within the building came to their ears.

"I'll try this door," Boyer whispered and turned the knob. It was not locked, so he pushed the door back and cautiously entered followed by his companions. They found themselves in a small room, with a half-opened door ahead showing a glimpse of a large well-lighted laboratory. The burly pilot again took the lead moving toward the light.

"Stop!" The command came from the next room, and as Boyer paused Lawson appeared before him.

"Those wires across the door mean death if you touch them. You cannot enter—go away. I am busy with important experiments."

The intruders now saw that wires had been laced back and forth across the opening. Boyer kicked the door back against the wall as the others came forward to stare into the laboratory.

A long table occupied the center of the room, with benches, book cases and a heterogeneous collection of scientific apparatus lining the walls. Upon the central table were row on row of radio tubes, large coils, condensers, and switches, scattered "breadboard fashion," and connected with wires to other instruments, unfamiliar in design. Dr. Lawson was bent over a meter as he slowly turned the knob of a large rheostat, paying no attention to those watching him.

"He's a radio nut after all," Tillotson said in an undertone. "If I ever saw a 'ham' station, this is it."

"No, it's more than that," Cavanaugh answered. "The first plane is due in a few minutes; we must find some way to break in. I think he has found some method of bending light rays by means of this apparatus and the antenna system outside."

"I'll go pull the switch at the meter on the beacon tower," Tillotson whispered.

The scientist whirled from the table and sprang to a large wall switch which he closed. "I heard you, my friend and I have electrified the wire fence around the house so you cannot leave. It is your own fault for coming here." The little man, grey hair disheveled, glared at them from under his shaggy brows, then deliberately turned his back and continued his work at the table.

"Doctor Lawson, we must know whether this apparatus of yours is responsible for bending the rays of the beacon light." Tommy stood as close as he dared to the wires as he addressed the man.

"Yes, it is!" the scientist shouted, turning again to stare at them unwinkingly with his sparkling blue eyes. "Fly your planes somewhere else. Day and night those infernal mechanisms roar over my head, interfering with my research. If your light is rendered useless, I am glad of it! I installed my laboratory here long before the air field was opened. I chose this location to be alone. If your planes are wrecked I am glad! Glad! Glad!" His voice rose to the shriek of a maniac with the last words. A sudden spasm shook his meager frame, then growing quiet he slowly shuffled toward the doorway, stopping within bare inches of the wires.

"But Doctor!" Cavanaugh exclaimed, "are you trying deliberately to wreck the air liners and murder the pilots?"

Lawson Confesses

THE scientist stood regarding them with a cunning leer for a moment then spoke. "Are you trying to kill a moth when you light a candle? Because the fool flys into the flame is that any concern of yours? That is just what your planes are—moths, blind, foolish moths. I throw on the current from my generators, tune my apparatus to a point in resonance with the wave-length of the light from the beacon, and bend it as I will! It's not radio—it's magnetism. Ordinary magnetism attracts metals; the magnetism I have discovered attracts light, because it is of a frequency in resonance with the wave-length of light. That is why the sun bends the light of stars passing near it. Astronomers have discovered the parallax but they have been too blind to know that it is because the sun is discharging wave-lengths of all frequencies! One particular frequency bends the star light while all the others do not affect it. I have found that frequency and control it as I will." The old man paused for breath, though his eyes continued to regard his audience malevolently.

"But the light is not affected to the west."

"Of course not," Lawson answered testily, "All my apparatus is on this side of the beacon—to the east."

Tommy, resolving to be agreeable in an effort to win the further confidence of the madman, asked, "how do you make the light move to either side as well as down, Doctor?"

"How, you ask? How does the revolving magnetic field in the coils of an electric motor induce a revolving pull or torque on the armature? I merely send the power through my outside wiring system from the north to the south, and the beacon's beam is bent sharply as it passes overhead. Then I bend the light to the north merely by throwing a switch. I switch the power to other wires and bend the light down. I hear a plane approaching—I'll do it now, I'll drive it into the hill top!"

(*Continued on page 88*)

The Bloodless War

Five hundred planes, headed northward . . . five hundred going northwest . . . thousand going northeast. Only a few parachutes . . . entire sky dotted with planes . . . almost every direction . .

A Futile Task

IN 1940 the United States was unprepared for war.

That was the normal condition for this nation during the years of peace. Other nations were in constant anticipation of hostilities and, secretly and openly, were doing all that they could do to precipitate war at the moment they would be ready for it.

After the Revolutionary War, the standing army of the States was barely sufficient to garrison West Point, while, year by year, after the World War, the Pacifists did all in their power to destroy the efficiency of the regular army. Even though everyone who understood military tactics realized that the next war was to be fought in the air, the Air Corps of the Army was more and more neglected. While commercial aviation was rapidly growing in importance, military aviation was continually starved by insufficient appropriations. The foreign nations could put thousands of the most modern planes in the air in a day's notice, but the United States was still making use of machines that were antiquated survivors of the experimental stage of flying.

It must not be thought that Congress had no warning of the dangers inherent in continually slashing the appropriations for the Air Service. Again and again, in every way possible, the students of modern and future warfare thundered their warnings. The political leaders of the nation paid no more attention to their pleas than if they were the buzzing of so many gnats. If the protesters became too annoying, those in power simply had their annoyers removed from the service

Consequently, the United States became the richest, the best hated and the weakest nation in the world. Trusting in her position, with two oceans, one east and one west, a peaceful friend to the north, and a weak nation on the south, the Queen of the Western hemisphere felt that there was nothing to fear. As a supreme proof of the country's ability to defend herself, the Pacifists pointed with pride to the fact that practically every nation in the world was in debt to her. They did not realize the truth that this condition was just as apt to make enemies of the debtor nations as it was to make friends.

Consequently, when John Farrol arrived at Washington with his message of warning in regard to a terrible danger that was threatening from Mexico, he found no one willing to listen to him. His tale was so fantastic, so impossible, that the officials, whom he talked to, even in the War Department, simply dismissed him as a harmless fanatic. For three days he wandered around the Capitol, growing more and more accustomed to the rebuffs that were being handed to him, yet never fully realizing the fact that he was being looked upon as a paranoic. At the end of this time he saw that he was making no headway, and took an evening train to New York City. There as he was trying to tell his story to the Mayor he was arrested as a suspicious character, probably insane, and spent his first night in the city in a police station.

DAVID H. KELLER, M.D.

The next morning, thanks to the fact that he kept his mouth shut about the Mexican trouble, he was discharged for lack of evidence. Not a word of his arrest was placed in the papers, due to its absolute unimportance in the eyes of the reporters. He was therefore placed in a peculiar position; the great men of the nation had either refused to listen to him, or, listening, had ridiculed him. He was disgusted with politics, and, at the same time, as horrified as ever with the knowledge that the nation was in peril and that something had to be done. After deep thought, he determined to see, if he could, the President of the Universal Electric Company.

That worthy, Jacob Strange by name, had risen by sheer ability, from the position of office boy to president. He was an inventor, an administrator and a financier. Under his leadership, Universal Electric had assumed a dominant position in the industrial world, and had placed several startling patents on the market which were as successful financially as they were perfect from the standpoint of electrical engineering. Strange was a man of moods, and a constant reader of literature. He was possessed of both imagination and initiative. His life was divided into periods of intense work and calm loafing. So fortunately, John Farrol arrived at the offices of Universal Electric during one of these periods of loafing.

DR. KELLER, the well known author and physician, needs no introduction to our readers. He may always be relied upon to do the unusual as well as the extraordinary, and yet his stories have a reality that bring his ideas vividly home.

In the present story, he gives us an inkling of what is likely to happen at any time and which also serves as a warning that America is by no means supreme in the air

Automatically controlled airplanes are no longer a novelty; indeed, as long as 10 years ago, the French government sent an airplane aloft that cruised for some hours, without a single being on board. It was controlled entirely by radio waves from the ground.

We are certain you will enjoy the present offering of this versatile author.

A Sympathetic Ear

HE passed through the outer office by virtue of a fraternity pin; he was able by

certain mysterious words whispered in the ear of the private secretary to send a message to Strange, and finally he spent three hours with the President, privately, during which he told every thing he knew about the impending danger. The fact was that the captain of industry believed every word told him. The message was unusual, but, to the man trained in the modern sciences grouped around electricity, there was nothing impossible about it.

"Here is the problem, Mr. Strange," John Farrol began. "Mexico has formed a treaty with Japan, the object being the complete conquest of the United States. I suppose that when this end is accomplished, Japan will claim the states west of the Rocky Mountains and Mexico some of the South western states. They may even reduce the United States to the territory east of the Mississippi River That point is a matter of unimportant detail. Japan has to have a landing point. She needs Mexico as a base. Mexico needs money and supplies. Their plan is this; to send a bombing fleet of planes to blow every big city in the nation to splinters. While the country is recovering from this shock and is wondering what it means, an invading army of Japs and Mexicans will capture New Orleans, Los Angeles, San Francisco, Chicago and St. Louis. By the time that our country is ready to fight, everything west of the river will be conquered. They are not going to declare war . . . they are simply going ahead to destroy our cities over night. I believe that they are going to use as many as twenty thousand bombing planes, each capable of carrying over a ton of powerful explosives."

For the first time the President of Universal Electrics shook his head.

"Each of those planes would require two men. That would mean 40,000 experienced pilots. There are not that many in the whole world."

"I realize that, but these planes are not going to have pilots . . . not human ones."

"Do you mean robots?"

"Something like that. Perhaps you remember reading about that small steam yacht that was sent out to sea, swung around, and returned to the dock without a pilot? The machinery on that boat was governed from the shore by wireless waves; the steering, the rate at which the machinery worked, was finally and completely under the control of a man on shore, who operated at a switchboard. At a certain distance from shore, he shut off the engine and the boat coasted back to the dock. Now, I know that the Japs have perfected this radio control of a plane. Each of the planes has a gyroscope. Started at a certain height, pointed in a certain direction, those planes will go on at a definite speed. The operators in Mexico can determine within a few minutes just when a plane will be over New Orleans or St. Louis. At that minute they will press a button which will release the ton of explosive. They do not care what happens to the plane. The few thousands that it costs is a mere trifle."

"It could all be done", finally answered Jacob Strange. "That is, I mean that I could put my men to work and perfect such an apparatus in connection with a plane. Of course, that yacht was just a toy. I think something like that was done with an automobile too. The difference between guiding an auto and an airplane is probably simply a matter of detail. But it would require a wonderful brain to put a plan like that into operation. I did not know that the Japs had a man good enough to invent a wireless controlled plane."

"They did not have. It is my invention. They stole it from me three years ago. Perhaps you are not willing to believe that? You will have to I tried to sell the entire patent to the United States Government and the people in Washington thought that I was a crank. I was mad, but not enough to try and sell it to a power like France or Germany, but I did think that I could interest one of the small countries in Asia, like Afghanistan. So, I sailed from San Francisco, intending to go to Japan, and from there overland. They got me in Tokio; I was in a hospital for three months with a fractured skull. By the time that I was able to ask questions, the trail was cold. Nothing was taken out of my baggage except my plans for the wireless control of a plane.

"I was destitute; so, I took the first job that I could get, and that was in the Burns plant in Tokio. I suppose you know that the Burns people assemble planes there for sale in eastern Asia? The plant was making so many of them and selling so many that I became suspicious; but, by that time, I had learned to keep my mouth shut. What I wanted to know was who was buying all those planes and where they were going. They certainly were not being used in Japan. I went to the American Ambassador, and he laughed at me. No use telling you about that, though. Then, after a hard time, I found that these planes were all being shipped out of the country, some to Korea and some to China. I got the names of some of these ships and their destination. Going to those ports, I found that they had never arrived. It did not take much reasoning power to arrive at the conclusion that they were going to a secret destination. Of course, I was taking my life in my hands, but I felt interested; so, I went on one of those ships as a stowaway. I finally landed on the Mexican coast. If I wanted to, I could write a story about that voyage and sell it, but what's the use? No one would believe me. There I was on the west coast of Mexico, at a port that had no name—desolate as an inferno and just as hot! I started out for the desert and watched, and those planes, one by one, rose in the air and went like bees over the desert. Going somewhere, see?

"I was accustomed by that time to being hungry, and the only way to find where those planes were going was to go after them. Fortunately, it was not far. Fifty miles from the coast there was as pretty a flying field as you ever saw, in what seemed to be the bottom of an old volcano. It was surrounded by low mountains. There was not a breath of air—and room on the sandy floor for thirty thousand planes!

Farrol's Plan

"I GOT up on top of one of those mountains, found a spring, made a rabbit trap, and, somehow, lived for another three weeks. There were hundreds of men down there, a regular little tent city, but that was not what was interesting to me. It was the stuff that they were doing in the air that at first was so puzzling, but, of course, I soon

tumbled to it. A man would take one of those big planes up in the air, about one thousand feet, and then he would come down in a parachute. The plane would go on for a few miles, turn around and then glide down to the ground. Sometimes, when it was up in the air, a small package would drop from the bottom.

"After thinking over it for some days, I saw what had happened. Those Japs had discovered that I had an invention for the control of planes by radio waves. That is why they nearly killed me in Tokio. Now, they were assembling a great fleet of planes in this isolated valley and learning how to control them by my invention. And they were doing it! Those little packages, that they were dropping out of the planes were dummy explosives. Their release was provided for by my invention.

"Someway, I managed to reach the border. I was starved and broke. I tried to get money . . . no one would listen to me. So, I started to go to work. I saved my money, and, just as soon as I could, I went to Washington. All that they did to me there was laugh at me. Then I went to New York and tried to see the Mayor, and I was arrested as a suspicious character. However, I managed to make them believe that I was harmless, and when they released me I came here. It is my idea that those Japs are going to blow our cities into eternity."

"That is just your idea?"

"Yes"

"No real dope to back the idea with?"

"Nothing but common sense. What would they want with twenty thousand planes? What would be the use of perfecting my pilotless plane and practicing the electrical release of the bombs? Nothing commercial about that, is there? That means war, and the only place to wage war, if they attack us, is on the Mexican border."

"I believe you are right," the President of Universal Electric finally said. "But I want to be sure that you know what you are talking about. You cannot fool my experts. I am going to call three of them in and you describe your invention to them. If they say that it is practical, we will see what we can do to save the nation."

For the next three hours John Farrol talked to an audience of four men who probably knew more practical electrical science than any other four men in the United States. At the end of that time he convinced them that he actually had invented a practical method for controlling the flight and the course of an aeroplane without a pilot. The matter of releasing the bomb at a certain time was simply a matter of definite radio waves.

"I think," finally remarked President Strange, "that Farrol and I had better go to Washington and see the President and the Secretary of War."

"It would not do a bit of good," replied John Farrol. "They would not believe us, and, even if they did, it would simply precipitate the war by premature publicity. My idea is to work this problem out ourselves."

"But how?"

"Somewhat like this. They will send those planes out in large groups, probably twenty-five for New Orleans, fifty for St. Louis, one hundred for Denver, three hundred for the Canal Zone. Maybe as many as five hundred for cities like Chicago and New York. These groups will all go out at the same time and be under the control of the same wave lengths. They will be supposed to travel in a straight line, but, at the same time, they will be capable of being guided by radio waves from the central office in Mexico. In my description of the proper use of such fleets for commercial purposes, I advised that in each fleet of freight planes there be one plane with a pilot who would serve to send messages by radio as to the exact location of the airfleet. Suppose we imagine five hundred planes sent in a bee line from Mexico to New York? Among these will be a plane with a pilot. When the squadron of planes arrives at New York, the pilot sends a signal to the central office and they send out the radio wave necessary to release the five hundred bombs, each weighing over a ton.

"That means five hundred tons of some powerful explosive, liberated at the same time and tearing five hundred sections of New York to pieces. What is to be done? Simply this. I know that you have done a lot of work with radio and the telephone. You know all that there is to be known about the amplification of sound. Make the largest one that you can and tune it in for the earliest detection of five hundred airplane motors. They cannot run five hundred of those new Burns motors in one group without making a lot of noise. Then, just as soon as it is certain that the fleet is heading for New York, capture it."

"Capture it!" exclaimed President Strange.

"Certainly. It is under the control of certain wave lengths, sent from Mexico. I know just exactly how that was described in my patent papers. I do not believe that there is a man, either in Mexico or Japan, who has the ability to change that code. Now, we will send a radio wave to that special fleet that is to attack New York, causing the entire fleet to go sharply to the right. That is all, that we are going to do. The fleet goes on. Of course, the pilot may realize that he is off the course and then he may not. We shall have to take chances. Perhaps there will not be any pilot. At any rate, we will have those planes going out over the Atlantic. When we are sure that they are in the right place, we will release the bombs, but they will be released anyway, because the planes will make a certain speed, and they will have estimated the exact time at which they reach New York. Of course, by that time, they will be out over the Atlantic. Even if they do not release the bombs, the planes are going to land in the ocean, because they are going to run short of gas."

"That ought to work for New York, but how about the other cities?"

"I think that we can work them. Each fleet will be operating under a different code, but the key code that I invented will control any of the variations, just as a bunch of skeleton keys always has a master key. We will have a large sound receptor and amplifier in every city that we expect to be attacked, and a trained man at every city station. The air fleet, attacking the western cities, can be sent out to the Pacific. Those threatening the Gulf and Atlantic Coast cities can easily be deflected eastward. I think that the best thing that we can do with the valley cities is to turn the fleets around and send them right back to Mexico to blow up the great, wide, open spaces. Perhaps, we can dispose

of the Chicago and St. Louis assault by sending them to pieces in the bad lands of the Dakotas. You want to remember one point. The logical thing for them to do is to send these fleets out at different times so that all the cities will be torn to bits within at least one hour of each other. That means that just as soon as we hear one fleet, we can at once expect the other. Naturally, the great flocks of air-birds, sent to destroy the larger cities, will be heard first, because they will make the most noise."

"Let me ask you one thing, Mr. Farrol," said President Strange. "Do you really think that Universal Electrics can handle this themselves?"

"You have to! You control the electrical and radio brains of the nation. The Japs are going to send twenty thousand planes over within twenty-four hours of each other. What could the nation do, fighting them in the old way? We have not nearly that many pilots, counting them all. If we should destroy a machine, the bomb would fall with the machine anyway and do a certain amount of damage. We could do something with individual planes. During the last war, our pilots were just as brave as any, and we still have brave men in the service; but the odds against them would be too great. Besides, there is the question of my pride. Those Japs stole my invention and fractured my skull. If I can invent a radio control of those planes, I can use that control to take charge of their planes. I want to do it. I can have your factory make the necessary apparatus in a few days. I believe that you have in your employ fifty men that are brilliant enough to learn the code and how to use it. Place a man and an amplifier and a control set in every large city. If you can do so, put extra men there, so that during every minute of the 24 hours, a man can be constantly on duty. Have all three men sleep and eat and live at the machines."

The President of the Electrical Company looked at his experts.

"Can we do it?" he asked.

"We have to!" was their only reply.

A Great Gamble

FROM that moment on there was no rest for John Farrol and the wizards of the Universal Electric. They worked and ate and slept, when they had to, and soon awoke to work and eat to another point of exhaustion. President Strange took his full share of the work. At the end of the ten days the apparatus was finished, and shipment was begun to every large city in the United States and the Canal Zone. At each of these cities an office was opened on the roof of the Universal Electric building and the three guardians of the safety of that city installed. With a sigh of relief, Farrol and Strange received the wireless message from San Francisco that that station was all ready for any emergency.

There was now nothing to do except to wait.

The entire work, costing several millions of dollars, had been done on the guess of one man as to what was going to happen. If he guessed wrong; if, through the silence of Strange and Farrol, the cities of the United States were blown to bits, then, one of the greatest and most needless tragedies of history would be the result.

Without taking Farrol into his confidence, Strange had employed several of the most brilliant detectives in the States to make an examination of this new Mexican aviation camp and of the proposed army invasion. Their report confirmed in every detail the story that Farrol had told during the first interview. There were over a thousand trained aviators there in the camp, but not one of them was to do anything more than simply take the machines up in the air, place them under the automatic control and then parachute down. No pilot was to actually make the trip. Try as the detectives could, they could not learn when the attack was to be made, but it was a simple matter for Strange to have an observation station located in the heights of the surrounding mountains and a powerful transmitting station installed. They found furthermore signs of strange activity at the Pacific Coast where a great number of presumably commercial vessels had gathered. And yet America slumbered unaware of the danger.

From the observation station, the first news of the attack came to the weary and almost desperate men in the central office at New York. It came through in code, a code that read something about the peach blossoms being in bloom and the skylark soaring in the sky. The . . . and the . . . followed each other in rapid succession, and finally read, when decoded:

"Five hundred planes headed northward ten minutes ago. Now five hundred are going northwest. (Silence for 10 minutes) one thousand going north east. Can see perfectly. Only a few parachutes. Must have perfected a means of starting without pilots. (One hour later). Entire sky dotted with planes going in almost every direction except south. Growing dark but can hear planes."

Morning came and still the radio told of departing planes. At last, came the final message.

"Still some planes at the camp. No activity. Do not believe that there will be any more fleets sent out. Probable that the other planes will be sent out tomorrow for observation purposes. Shall we close station? Radio instructions."

From the time that the first message had been sent out from this observation station on the mountain top overlooking the camp, the word of warning had been flashed to each of the fifty control stations.

Now began one of the strangest, most peculiar and most remarkable battles that was ever fought for the control of a nation. On one side were twenty thousand airplanes, hurling through the air, governed in the flight by radio waves from a central station, and not one of those planes carrying a human being, either as passenger or as pilot. Those planes were being sent against fifty of the great cities of the United States, in some instances, as many as five hundred being directed against a single city. They were started at different times, their departure being so arranged that the cities would all be bombed within an hour of each other. Twenty thousand planes each carrying a ton of high explosives, probably a hundred times as effective as the T. N. T. of the World War.

Opposed to these there was not a single airplane. When the great fleets of the air ships passed over the United States that night, they were practically unobserved. Flying in triangular formation at a great height, they might have been looked on by the country people as flocks of wild geese, or

migrating ducks. The War Department did not realize what was going on till it was all over; even had they realized the danger on the last day, they would have been unable to put more than two hundred combat planes into the battle, and these fleets of enemy airplanes were moving in so many directions that no concerted movement would have been possible in an effort to stop them.

The battle in the air was one of waves, not of machine guns. From the date of this battle, men flew in the air, but gave up all idea of duelling with each other. Twenty thousand deadly planes crossed the border that night, and their only opposition was composed of one hundred and fifty trained radio operators at fifty stations, one station in each of the threatened cities. Three men to save New York from destruction; three more men to keep desolation from Chicago; three men to ward off threatening doom from cities like Denver, Philadelphia and Los Angeles.

Saved!

JOHN Farrol and Jacob Strange were in charge of the New York station. What happened there was typical of what happened at each of the others. The two men sat at the radio controls, silently waiting for their sound receptors to tell the news of the approaching fleet. The amplification was as powerful as modern science could devise. An entirely new invention enabled the distance of the approaching sounds to be recorded on a dial. Consequently, it was an easy matter to determine the position of the coming fleet at any minute. The men waited at the controls, pale, sweating, and, in spite of themselves, trembling. In deadly silence, a half dozen experts stood near them.

Suddenly, John Farrol exclaimed,

"The New York fleet is passing over Philadelphia! The time has come to swing them into the ocean!"

He started to broadcast in code. Again and again he sent the same message. Meantime, he was looking at the distance dial. Suddenly, the hand, which had recorded ninety miles, paused, and then advanced slowly, eighty, seventy, sixty, fifty, forty . . . the experts looked at each other. Was it a failure? Was the entire protective scheme useless? But they saw the thin, white face of Farrol, the inventor, relax, and then smile. Now, the hand on the distance dial began to move in the opposite direction . . . fifty . . . sixty . . . seventy . . : one hundred . . . long minutes of waiting that seemed eternity. The sound from the amplifying receptors seemed to be growing less. Three hundred miles.

"They are out to sea. The nation is saved!" exclaimed Farrol, turning to the President of the Universal Electric. "I think that I shall try to liberate the bombs. Of course, we shall never know whether they have dropped or not, for they will fall into the ocean instead of on the greatest city in the world. Still, we had better try to release them, for there is no telling how far the planes will go before they run out of gas."

For another ten seconds he broadcasted another code signal. Then he arose from his seat, and wiped his sweat covered face.

"Mr. Strange," he said, "We ought to get in touch with the other stations. Are you sure that they had orders to call us up when their work was finished?"

But, as though in answer to his question, messages began to come in code through the air. San Francisco and Los Angeles had had no trouble in sending their enemies into the Pacific Ocean. In fact, the next half hour disclosed the fact that all of the coast cities had successfully provided a watery grave for their antagonists. The border cities, like San Antonio and Houston, had been unable to completely reverse the course of the fleets attacking them, but, at the same time, had been able to send them out into the Gulf of Mexico. Chicago and St. Louis had sent their fleets into the Dakotas and were anxiously trying to make them drop their bombs in the prairies before they crossed the Canadian border. In every case, the threatened cities had been saved. It was too early to tell what damage had been done by the bombs dropped in the rural districts of the border states, or whether Canada had escaped loss of life or property.

The finishing of the reports could be left to subordinates. Now was the time for sharper action. Farrol and Strange left at once by air express for Washington. There they demanded and obtained an interview with the President and his cabinet. In a few words they told the story of the threatened cataclysm and how the danger had been averted. It was for the President and his advisers to decide on a satisfactory plan of action against Mexico and Japan. This was difficult. No state of war had been declared, and, as far as was known, not a life had been taken. Most of the attacking planes were sunk in the oceans, and, thus, their value as evidence was destroyed. It was realized that the enemies had a spy system that would not waste any time in reporting the entire failure of the proposed destruction of billions of dollars of property.

Even as they sat there debating on their next move, the Mexican Ambassador called in person. He bore a personal message from the President of his nation. There had been a serious misunderstanding. The country below the Rio Grande had been badly treated by Japan. They had made an agreement, so they thought, only for commercial purposes, but, when it was too late, they had discovered that military action was intended. The Mexican Government seriously regretted this and hoped that there had been no loss of life or serious destruction of property. If anyone had been killed, they were willing to pay an indemnity. This message was delivered in a most serious manner to the President and his cabinet, augmented by the presence of Farrol and Strange.

Farrol Speaks Out

THE President of the United States heard this remarkable statement without moving a muscle of his face. He was a good politician and realized that now was the time to do some quick acting. He suggested that at one a treaty, offensive and defensive, be drawn up and signed by both nations. The Mexican Ambassador was delighted with the suggestion; he said that he had full power to act in any way that he saw best for the interest of his country, and he was sure that nothing would be better for Mexico than to have the good wishes of her Northern sister.

(*Continued on page 87*)

Men with Wings

LIEUT. F. STONE

His wings were snowy white and he smiled brightly appearing very curious about the plane. Morrow thought of taking him back as a prisoner but the other laughed and dropped from the plane.

FOREWORD

IT was in examining the precious stack of documents that lay carefully wrapped and ticketed in the old-fashioned vault that our ancestors called a "safe" that I came across this manuscript, which in view of its great historical worth, I feel obliged to publish that all men may read.

We, today, being a race possessing wings, know the few facts of our peculiar evolution. But cold facts like a cold egg do not attract our attention or pique our appetite. And so in order to give more vivid understanding of what actually took place, I am presenting the story of my ancestor who, to use a quaint idiom of his day "typed" these chapters of the great and most picturesque period of world history.

Almost five hundred years have passed and the pages of the manuscript are yellowed by time, but it is possible in reading them for one to relive the tale in its colorful telling. One has only to lift his eye to the air above him and see his fellow-man flying as the birds fly with wings outspread, to become thankful that he is not like his ancestors of centuries ago who had to depend upon a poor sort of flying contraption that had been handed down to him. They did not know the pure joy of soaring above the eagles' heads and adding voice to that of the meadow lark. And realizing this the world can bow heads in reverence to the Martyred President of America and send up a prayer of thanks to our common ancestor, Howard Mentor!

One could write at length on the advantage of having wings, in fact, our literature contains many such extravaganzas. In fact some of our humorous writers have pictured how we would have to live if we reverted back to our poor earth-chained ancestors of the early twentieth century. They must have lived a pitiful existence.

So our story starts in 1945.

CHAPTER ONE

Alarming News

IT was Harry Brent who made the "scoop" and The American came out on one fine morning with four-inch scareheads devoting their entire front page to the news relegating the less important details of murders, robberies, gang-wars, stocks and floods to inside pages. The Warby father-daughter murder

LESLIE STONE

went begging for space. It was really hard on those concerned. Later, we reporters, condoled with Annabel Warby because the time was inauspicious for a first-class murder.

The American flaunted its news.

NORDIC FEMALES UNSAFE IN LATIN AMERICA!

MANY OF AMERICA'S FAIREST HAVE VANISHED WITHOUT TRACE!!

New Race of Men with Wings Believed Responsible for the Strange Disappearances of Visiting White Women!

IT IS REVEALED THAT SOUTH AMERICAN OFFICIALS HAVE PURPOSELY SUPPRESSED WORD OF ABDUCTORS FEARING LOSS OF TOURIST TRADE!!!

The newsboys made a bedlam of the streets with their ballyhoo voices interpreting the news as each saw it, and their papers went like hot-cakes.

In the editorial chambers of the New York News half-a-dozen or so of us reporters sat about discussing this latest tidbit, lamenting that it was Brent instead of us who had nosed out this delectable morsel. The wonder of it was that he had managed so adroitly to keep it all under cover until he had unearthed all the corresponding details and that no other paper had smelled it out.

The accounts described the strange abductions in detail, but the signed columns of Brent's held the meat of the whole affair.

"In searching," he said, "through the records of various South American cities I was startled in discovering that the old files held record of many unsolved woman-nappings as far back as two hundred years before, and that then, as today, only women of Anglo-Saxon, Celtic and Scandinavian blood appear to have been the victims!

"That fact in itself points to at least one clue, and it is evident therefore that all these

THE present story is quite an extraordinary one, and aside from adventure, suspense and interest, it contains excellent science.

A well-known evolutionist once said that if it were absolutely necessary for humanity to have four arms and hands instead of two, the extra members would in time be evolved Nature always keeps pace with necessity, particularly if this necessity is vital. Once a member is no longer vital, it promptly is discarded, such as for instance, tails in human beings. It may not be known generally, that among the human family, there are so-called "throw-backs," which still have a prehensile tail.

The author has made use in this tale of an evolution of a most remarkable character and carries the reader on from chapter to chapter with never-ending suspense.

strange disappearances can be laid to one person or ring working under one head. The South American police have naturally been baffled, for in all these years no other clue has ever come to the surface, and all the combined efforts of the various goverments of the Latin countries have not availed in discovering the culprits.

"What is hard to understand is how have they managed to keep these serious matters away from the world. Of course such news would be most injurious to the nations of South America who look forward to the in-pouring of tourists and wealthy visitors. In Brazil the Argentine, Chile, Peru, Ecuador, Bolivia, Colombia and in fact every country where white women have visited the toll has been taken. How many more than the four hundred and thirty-five recorded kidnappings have taken place, we have no way of telling. And perhaps our South American friends might have continued to hide the truth had not the abductors themselves become so careless in their actions as to give away more clues, forced themselves, in fact, on public attention, so that our friends below the equator were forced to admit what was happening!

"I might even say that the woman-stealers have become incensed by the attitude of the South American police, at the utter disregard of them by the officials, and are now making it a point to bring themselves to the notice of the world. On the other hand it may be that, so long unrestrained, they are merely becoming careless and with a spirit of bravado are indulging in wild escapades, in extravagant gestures.

"It was the disappearance of Marion Hally, daughter of the well-known Herbert Hally, sportsman and dilettante artist of New York, that first brought Rio de Janeiro to the realization that something had to be done. In two weeks' time more information has come to light than in over two centuries.

"On March 4th the thing happened, but for almost two weeks the news was kept secret as there was hope of finding the missing girl. It was the father that exposed the truth to the public when he offered the munificent reward of one hundred thousand dollars for the recovery of his daughter or at least for word as to her whereabouts. The story was printed on handbills and distributed throughout the city as it was evident that Hally would not depend on the newspapers to make the announcement.

"The story says that Miss Hally had gone for a jaunt on her horse, followed only by an attendant by the name of Jose, through the winding paths of the vast estate of Señor Alvarez Ricardi y Murado at whose home the Hallys were visiting. The equerry kept a respectable distance behind his lady, speeding his horse as they rounded each curve so as to keep her in sight. The ride was, at first, anything but eventful; the sun was hot, the day warm. Gradually Jose fell farther and farther behind until suddenly awakened by the shying of his horse he recalled his responsibility and whipping up his horse was surprised to find his mistress riding in the company of a man who was likewise horsed.

"The stranger's costume struck Jose as singular, since the equestrian was entirely wrapped in a black, completely enfolding cape. Under his wide-brimmed hat was a tanned hawkish face that reminded the equerry of a bird. Miss Hally appeared very much interested in her escort and the two were conversing with animation. Jose fell back again and was aroused from his lethargy only when a piercing scream brought him to attention. Spurring up his horse he raced ahead. The path took a wide curve, a hairpin curve in truth and although the voice was near at hand it was necessary for him to ride in a wide circle to reach the spot from where the voice had come. He saw the two horses grazing quietly beside the road but there was no sign of their riders!

"Leaping from his horse Jose looked about. On the ground ten feet away he found the long cape of the stranger, and to it was adhering several black feathers, glossily ashine, and several inches in length. Farther on he found Miss Hally's stiff little riding hat. But though he searched in all directions and repeatedly called her name there was no answer. Once he glanced up at the sky and saw what appeared to be a large bird of black flying high and very swiftly though he appeared to be carrying a burden. It was only after much questioning that he bethought himself of the bird, but, of course, the police did not consider that a clue. Nevertheless the disappearance of Marian Hally is still one of the unsolved mysteries.

"In the following week there were several tales that paralleled that of Miss Hally. And it was found that there was always a man with a black cape near the scene of the abduction. Someone was sure to liken him to a bird and usually a few feathers of different colors were found! The hue and cry went out for a black caped man.

"It was in Quito, Ecuador, on March 17th that the real clue came to light. It was in the new Salvadora Hotel where Miss Hilda Berkenhart was visiting with her father. The Berkenharts are of old Swedish-German stock and Miss Berkenhart, blonde and handsome, was often spoken of as the Viking Maid. Junoesque, tall, wide-shouldered, overflowing with the vitality of her healthy body, she was a true daughter of that once great race, a prize-winner if ever there was one.

"It appears that she, with several other guests of the hotel, had entered the lift. One by one the others got off at their floors. She had a room several floors higher. She, and a tall slender man with fine aquiline features, and wearing a dark blue cape that hung to his feet, were now the only occupants beside the elevator-boy. The latter was a small slender Irishman who had found his way into the tiny country on the Equator, and he was suddenly aroused from his memories of the Emerald Isle as he realized his male passenger had addressed him. 'Drive to the roof!' had been the command.

"Miss Berkenhart started to protest, but turning the boy saw that the be-caped man held a revolver trained on them both. Up they went to the roof 'Get out!' The girl and boy under the persuasion of the gun hurried to obey. From under his cape the man next brought forth a length of cord. 'Tie her hands together,' he had directed the elevator operator; and under the menace of the revolver the girl allowed him to do it. 'Now tie her feet'. That was done. 'Go back to the lift now and descend to the lobby!'

"Quaking, the youth retreated to the elevator shaft and started the motor, but he did not descend far. He lowered the machine just enough to allow his eyes to be on a level with the roof-floor. So noiseless was the well-oiled machinery that the man in the cape did not hear. Later the operator reported what he had seen. The man had already crossed to the girl's side and said something to her that the closed door of the lift muffled, but the boy saw her smile bravely. Then the strange man tossed off his cape!

"The boy had to rub his eyes to make sure of what he had seen. The man was standing in a close-fitting costume of white that seemed skin-tight, decorated with a snow of colored feathers—bright and glistening. However, that was not the strangest part of him. He was winged! On his back pressed against his shoulder blades were a pair of wings, wings such as a condor might have. The boy swore they were easily five feet in length from the shoulder blades to within a few inches of the man's heel, wings with long glossy feathers of golden brown intermingled with yellow and darker shades of brown. For joy of being free from the binding cape the wings seemed to stretch themselves and there was easily a spread of twelve feet from tip to tip!

"Smiling kindly the winged man had turned to the girl who tried to draw away from him in fear. The Irish boy admitted that the man was handsome, with his bird-like features and his dark wavy hair and sea-blue eyes that had the distance of the sky in their depths. He walked toward Miss Berkenhart and as gently as a mother picked her up, settled her comfortably in his arms and with a great surge of those gigantic wings arose straight up into the heavens with his burden.

"For several moments the boy watched the flight, and on the streets below were people who were staring in wonder, for they too had seen the take-off. When the youth reached the hotel lobby his eyes were rolling. He reported what he had seen. A great roar took hold of the city. The boy's word was not doubted. Others had seen. Rather the fellow was looked upon as a saviour. At last there was something tangible to work on. A winged man had carried off Miss Berkenhart. A winged man had carried off Miss Hally! Winged men had carried off women in South America for two hundred years. It was all explained. Latin America is satisfied. The mystery is solved!"

"Is the mystery solved?" asked Brent in concluding. "Surely it has just begun. What are these men with wings? Who are they? From whence have they come? What sort of beings are they? Has Science overlooked something? Is Darwin right? What have evolutionists to say? Does this prove or disprove? And what has become of our women, our girls that have been carried away? For what?"

Brent then went on to question the possibilities. Had South America given birth to a new race of men? Was there some Lost World in that half-explored continent? Were these new creatures birds or men?

A Strange Tale

THE next day the papers came out with editorials concerning this new man, this new menace. Had a new race actually been evolved? Was this to change the entire theory of evolution? Where would Darwin and his monkeys be now? Could it be true that the Pterodactyl, the flying reptile, was our ancestor instead of the ape? Was South America a new breeding-place of man?

New tales of abductions appeared. It looked as if this *alated* race had come out of their two centuries of seclusion and were deliberately making war upon humanity, on white women! A pilot flying over a section of the Brazilian jungles came back with the tale of his sighting a winged man and giving chase. He tells of having caught up with the fellow, and he estimated that the flying creature was traveling at the speed of about eighty miles per hour!

Seeing the plane draw alongside of him the bird-man waved and before the pilot realized his intention he had risen above the machine and then as lightly as a bird alighted on a wing, as close to the pilot as he could.

Pedro Mureno, the pilot, described the fellow as a young chap of perhaps twenty-two with fair hair and blue eyes. His wings were snowy white. He smiled brightly and appeared very curious about the plane, his eyes darting about and taking it all in. The speed of the machine evidently intrigued him for it was doing a hundred and fifty miles an hour. He crawled through the struts to the pilot's side and attempted to converse with him, but the noise of the engine prevented that.

Mureno turned a loop for the edification of the youth and performed several other maneuvers and stunts, and the boy laughed with pleasure. Mureno thought of taking him back to the base a prisoner, but, as if divining his purpose, the other laughed again, crawled to the edge of the wing and dropped from the plane. Mureno circled him for several minutes chagrined that he was unable to make his capture.

Taking the opportunity to show off, the winged youth now did stunts. Rising rapidly above the plane he suddenly closed his wings so that he fell like a stone for almost five hundred feet and as suddenly opened his wings halting his fall as abruptly as he began it. He gave a pretty demonstration of a bird chasing insects, darting, banking, soaring, whirling and plunging with the sun ashine upon the beauty of his snow-white plumage.

He turned somersaults, lay on his back with his wings spread under him, circled, turned sharply at right angles, climbed straight upwards and sailed, then came tobogganing down again. At last tired of play and wanting to be rid of his spectator with a wave of his hand he commenced rising straight upward again and before Mureno realized his intention, headed into the bright glare of the sun that was soon to set. To Mureno, it was as if he had actually flown directly into the heart of the flaming star.

Later that same trick of the flying men was going to prove rather trying to aviators giving them chase, for once in the full glare of the sun it was impossible for the pilots to make them out, blinded

as they were by the sun. The trick also gave rise to the supposition that the winged men came from the sun, were not of Earthly origin after all. However, only the ignorant would believe such a tale.

CHAPTER TWO

The Three Start

AND still the kidnappings continued with the police baffled, always just too late. Planes were called into service, but they invariably arrived too late or else were eluded. A soldier did manage to shoot an abductor as he bore off with a girl and they both plunged to their death. Thereafter orders were issued that there was to be no more shooting, but to capture alive. A second flying man with his prey was chased into the Andes mountain fastnesses and there lost.

It appeared as if the winged men knew no caution; the purloining of women became more daring, more spectacular. North Europeans with their wives and daughters were fleeing homeward, and most of the American residents in Latin countries were sending their families back to the States. Married women appeared to be no safer than the single girls. All South American governments were calling for aid from their northern neighbors with their superior air-craft and air-men.

Nor was America quiet. Its people were up in arms demanding that the government do all they could to fight this menace to American womanhood. The winged men must be exterminated! Their lair must be discovered and wiped out. Planes left daily for Latin America. The air was to be made unsafe for flying men!

Still disgruntled over the scoop made by Brent, a plan came to me and I confronted the city editor with my scheme. Three years earlier I had gone with one of the Smithsonian expeditions into the heart of the Amazon country. I knew the country. I knew several Indian dialects. And now all reports were pointing to the fact that the winged men had their home in Brazilian jungles. Why could I not go down there and alone find my way to their settlement? I would get the complete story, the history of this new race, and their intentions! I was the man to do it.

Sims, the city editor, had to think it over. It sounded good. It was. The next morning I was summoned to his desk. Of course I had not slept all that night and now was feverishly awaiting that call. Plans had already been laid. I was to go with two more trusted men, Jack D'Arcy and Dick Norton, also reporters on the News. We were of course to keep our plans secret and must hurry before another paper beat us to it.

We took off in our plane one dim morning, and by the afternoon had passed the Mexican border. We were apprehensive that our mission be discovered. Howard Wormley the famous aviator was our pilot. We thought at first to use Lima as our headquarters, but after scouting around the city for a day we flew to Cuzco somewhat southward but nearer the Brazilian jungles.

We learned that two planes, one leaving from Quito and one from Rio de Janeiro, had headed for the Amazon jungles, but had been heard of no more, forced into a bad landing no doubt. The papers were of course filled with the latest abductions. A most daring one had occurred aboard a great trans-pacific air liner going from Honolulu to San Francisco. The account read:

"Aboard Quitonia, April 5; Another victim has been added to the long list of white women who have been stolen by winged men.

"At ten o'clock this morning the liner's passengers were startled to see a flying man appear coming toward the craft. At first he had been taken for a giant bird but as he drew closer it could be seen that he was one of that strange new race of winged men. He alighted on the super-structure holding by one hand to some rigging while he surveyed the people on the observation deck. Then letting go his hold he soared over their heads for several minutes giving a pretty exhibition of fancy flying, then swept low as he scanned each face. He dropped to the edge of the deck at last smiling brightly.

"People crowded to the rail and spoke to him. He was said to be a handsome youth, an interesting freak. He did not look harmful. He answered a few questions put to him, joked and laughed and then motioned for one of the young women passengers to come close. She was a Miss Elizabeth Moray, known to be a teacher on a holiday jaunt, a very pretty young person.

"Miss Moray would have hung back, but her fellow passengers laughingly pusher her forward. She came near and the two began talking together. Someone heard her liken him to Icarus and he laughed. It sounded to the by-standers that they were discussing mythology. Then the flying creature dropped his voice and spoke too low for any but Miss Moray to hear him.

"The voyagers commenced talking amongst themselves with their eyes lingering on the strange youth. They did not appear to realize the seriousness of the situation until suddenly Captain Edwin Moorhead was seen approaching with a revolver in his hand trained on the visitor. The crowd were awakened by the sight of the weapon to the fact that this youth was a menace, a creature to be captured. They began milling about, drawing back, pushing forward. Then it happened!

"The astonished passengers of the Quitonia saw the school-ma'am suddenly fling her arms around the winged man's shoulders and seemingly without effort he lifted her and himself above the deck with a great surge. With a wave of their hands the two headed for South America. Captain Moorhead did not shoot. They were at an altitude of three thousand feet. And like the other he headed straight toward the sun. Hours of pursuit by the Quitonia ended in the realization that the bird-man had escaped."

After the Bird Men

THE article went on to discuss the horror of such a situation when women were kidnapped in the sight of their fellow-man, and the fact that the abductors were such handsome fellows, that the kidnapped did not appear to object at all. Several other aircraft reported having sighted the twain as they passed overhead. A small coast-wise air-freighter fired some random shots at them and a village on the sea-coast saw them go by. Many aircraft gave them chase, but the bird man always eluded them.

The news heartened our little party. We would most surely find them in Amazon country if it were possible to find them at all. Our plane was ready for the take off. We were to fly over the jungle lands in hope of discovering the settlement of the flying men. Then we would land our plane in some clearing and proceed on foot. In the meantime we scouted in the city which was one of the oldest in Peru and filled with Indians. Many of the Indians told tales of flying men they had seen from time to time. However, they were very close-mouthed and did not seem anxious to speak of them, possibly believing them to be some new sort of gods. We heard a rumour that there lived an old Indian who claimed that he had once lived among the winged men! We sought him out!

He dwelt below the city of Arequipa some two hundred miles south of Cuzco. We flew that day to that city that has for its background the majesty of El Misti. Early the next morning with a couple of hired *arrieros* (muleteers) we made our way to the tiny village where the old fellow was said to live.

Peru at best is a wild country made up of pampas, deserts and mountain heights. It is a rugged place of irregular rivers that cut deep terrible canyons and tremendous water-falls. It is a country of mystery, of ancient grandeur, of ghosts of the Inca, of poor ill-clad peons who are the descendants of that once great race. What cultivation there is, is done on a very intensive scale.

Since large areas of the country is desert there is not a grain of fertile soil wasted. The fertile belts are usually on the river banks and the farms are set on series of terraces that had been built originally under Inca direction and are farmed in much the same way as they were hundreds of years ago. Nor is the climate of the country equable. In the valleys is the hot fetid breath of the tropics and an over abundance of tropical vegetation and snakes, while the higher one climbs the cooler becomes the air. Mount Coropuna which is a matter of nineteen thousand feet above the sea is always covered with snow; and the Indians dwelling on the high altitudes of from twelve to fourteen thousand feet wear heavy clothing and find it difficult to keep the home fires burning up there above the tree line.

In our trip to old Pedro Majes we experienced a variety of weather. Sometimes we climbed rather high and then dropped down into valleys. Most of our trip, however, was along the edge of a raging torrent and the path was rough. At places where the river's gorge narrowed, stone steps had been cut out of living rock by the Incas, we were told. Sometimes a causeway constructed by the same builders took us across the wild waters or else our mules picked their way delicately along the crumbling road-bed where every foot fall precipitated a rain of gravel to the river below.

After almost a two day's journey we came to the hovel of Senor Majes, a decrepit old chap whose lack of hair, teeth and cataracted eye-balls attested to his great age. Luckily I could understand a few words of his dialect so I did not need to depend entirely on our guides for interpretation. Old Pedro's wrinkled face lighted up when we questioned him about the men with wings.

The Story of Majes

"AH..ay.." he cried, "I knew them well. Ay..they were men! Children of the Sun were they indeed. They will come . . . truly . . . they will come . . . and they will lead my poor people back again to the lands that rightfully are theirs, for know you . . . they are most surely the children of the Inca who came to us once . . . from the Sun. Ay . . . ay . . . they will come. Never fear!"

"Where did you know them?" I broke into his ravings.

He waved his hand to the north-east, and then sat with his eyes turned to the distant horizon. When he spoke his voice was low. "Many, many years ago I was young, I was strong. A mighty man was I! Now there are none as strong as I was once. My people lose their strength even as they lose their hearts. Yet that will be different when They come again . . . ay . . . ay . . .

"I was hunting in the jungles for I was a warrior then . . . And as I crept along tracking the deer a man appeared before me with a suddenness that is only possible to god-things. I fell upon my face for lo! he was different from other men; he had wings like the condor!

"He bent and helped me to my feet and then I found that he had pressed a piece of silver into my hand. 'I have paid for your labor,' said he, 'your labor belongs to me'. I nodded for that is our custom. He named then a place where we should meet and with his great wings he rose straight into the sky."

"And did you meet him?" I asked

The peon nodded. "Ay . . .ay . . had he not paid me for my labor? I bid good bye to my wife, my little ones and my friends, and I went to the place where he had bidden me go. There were others there, all fine strong men like me. He was there and with him many of his kind. With them they had a great hammock of woven bark shaped like a canoe and we were hidden to take our places therein. There were fifty of us.

"We did not hesitate but sat in the hammock. Then the men with wings each took a hold of the air-boat, for such it was and together they bore us up and over the trees! For many hours we sailed more smoothly than a boat sails the river, and with the setting of the western sun we descended. We found ourselves on a vast plantation, and we were given food and drink and a place to lay our heads.

"Ah, never before was there such a farm. This poor cultivation that you see here in these hills is not like that. How far it stretched there was no way of telling. There I worked in the fields with my fellow men for a year and again the flying men came to bring us back here to our friends and our families."

You can imagine how I felt when I heard this. The winged men therefore had settlements, plantations and what not.

"Were there many winged men?" I asked.

Pedro shook his head. "I know not their number. They brought us and they took us away, but how many there were, I know not. They did not live near us. They but came and went as they pleased. Sometimes they came by night, sometimes by day,

and they carried off with them great sacks of the foods we raised, of the sheep we herded, of the fruits we gathered. Ay . . . the weight of the sacks that they bore off . . . twice the weight that even the strongest of us could bear!"

"Where did they carry it?"

Pedro shrugged his shoulders. "Is it for me, a lowly peon, to speak of god-things? Does one ask where the Sun dwells? Nay . . . I know not, senor. I know only that they will come again . . . and it will be to lead us back . . . to give us what belongs to us!"

And no further questioning could bring another word from the old fellow. It was enough, though. Not more than a day's flight away dwelt the flying men. That would mean then that their plantation was in Bolivia instead of Brazil, however, for Arequipa is parallel to the Bolivian border. It appeared later that I made a mistake, in not realizing that in his hundred odd years old Pedro had not always lived in this locality but in reality he had lived farther to the north.

Futile Searching

AFTER returning to Arequipa we spent two days in flying over a portion of Bolivia. However, all of the western part of that country is mountainous, and we began to think that Pedro had led us astray, for not once did we catch so much as a glimpse of a winged creature except a number of condors who made their homes among the mountain peaks.

We decided then to fly back to Cuzco and continue our search from there. We heard nothing of much interest in the city, but more planes were arriving to take up the search. We, however, were determined to get ahead of them all and headed out over the vast jungle country. Below us lay the *montana*, the jungles on the eastern slopes of the Andes and which is known as the Upper Amazon Basin.

Flying over the wild country that rolled below us, for the first time we felt qualms of doubt. How were we to ever find the settlement of the *alated* in this wide stretch of unexplored land? No plane had as yet located anything that looked as if it might be inhabited—the jungle presented nothing but miles and miles of tangled masses of tropical vegetation and massive trees, gentle slopes and occasionally a bald spot of leprous white amid the sea of green.

Rivers wound through over-grown banks appearing and disappearing, lakes blinked up at us, swamps and deserts stretched below. We saw a few spirals of smoke that set our hearts beating, only to discover them to be nothing but the cooking fires of a poor sort of Indian village. Once on a low hilltop we saw something we took to be a city which turned out to be merely some Inca ruins.

What if after all these winged men had no base, but like the Indians were a wandering people moving day by day. Suppose that Pedro Majes after all merely dreamed that he had been carried off by flying men, that his imagination had been fired by the tales he had heard of the men with wings? Only the fact that they had a great many women, kidnapped women, and a number of children perhaps, made us think that they had some fixed dwelling place. How large their settlement might be, we could not guess.

For two days we flew and in that time descried only one of our quarry. He immediately flew straight into the bright ball of the burning sun so we lost sight of him, even though we put on smoked glasses. He faded completely out of our vision.

Disappointed we sulked in Cuzco. We decided that we were wasting our time. We must go on foot into the country and search on the ground. We hired a band of Indians to guide us through the jungles and went to sleep determined to start out in the morning on this new venture. We did not start that morning, however, for some of our Indians had decided they did not wish to go. We spent the day in gathering a new band.

The Clue

ABOUT four o'clock that afternoon some fresh news came and again our plans were changed! A radio report had come in from a questing pilot. Flying low through the jungles not more than ninety miles from the border of Peru, he had suddenly come upon a great band of flying men! He judged there were perhaps a thousand and they had appeared to be going through some aerial drill, flying in formation with a leader at their head.

He had come upon them from the rear, but the noise of his engine announced his presence. Immediately as if at a signal the large party separated but still keeping a formation they flew upward and outward straight into the sky until a great circle a thousand feet above the plane was spread.

"Were they to attack me in a body," said the broadcaster from his plane, "they could by laying hands upon the machine bear it down to the ground, but it is evident that they wish me to go my way. For some reason I suspicion that I am close to their base. I lay this position to be about seven degrees below the equator and . . . "

There the voice of the pilot ended and it was believed for the moment that he had been attacked by the flying men, and, as the aviator had conjectured, had borne his plane to the earth. However, five minutes later his voice was again heard.

"I am losing control of my machine . . . I can no longer guide it . . . for it moves . . . and swings about crazily . . . as if . . drawn by some great power . . . moving faster than before . . . Overhead the flying men watch . . . God . . . my hands . . . they are growing cold . . . my feet . . . why . . . there is frost on the instrument board! My God . . . the propeller is frozen fast . . . and yet . . . yet . . the plane continues to move irresistibly toward some goal. The earth is swinging around . . . It is cold . . . horribly cold . . . and dark . . . the sky is black . . . I can see nothing . . . I . . . I . . . "

And there ended the radiogram. The receiving stations waited for hours but no more was heard. The pilot was evidently dead, but he had managed to give the world some tangible news at last. We knew now where to look.

D'Arcy, Norton and Wormley and I started out before dawn and this time we headed ninety miles east on the seventh degree of latitude. Others

started shortly after we did, but ours was uncommonly fast so that we led the race. It was I who discerned a large band of flying men gathered together several miles ahead. They sighted us and quickly spread out fan fashion until they disappeared altogether into the blue sky. We were happy. We had found them out.

CHAPTER THREE

Caught

D'ARCY leaned toward me. "I suggest that we go in search of some likely place and proceed on foot . . . If these fellows have some means of destroying the plane . . . we'll be in a hell of a fix!"

Acting on his suggestion I caught up one of the ear-phones that communicated with the driving seat; for D'Arcy and I were riding in the passenger cabin while Norton rode with Wormley, the pilot.

Immediately we commenced circling down looking for a clearing in which to land. We saw two clearings that were not very large and appeared too irregular for our purpose. Then the trees, great giants, spread out before us without a single break mile after mile. We turned about then for we did not wish to get too close to the village of the winged men. We recalled the fate of the pilot who had!

It was Norton who called my attention to a sight below. On the highest tree top we could make out a figure and it was waving to us, beating both arms over its head. D'Arcy cried out. "It's a woman!"

It was a woman and Wormley dropped lower so as to pass close to her when as suddenly as she had appeared she vanished from our sight into the thick foliage of the trees, pulled from below. We could do nothing but stare at the place she had been, as we skimmed overhead. We did not doubt but that she was indeed a captive, one of the hundreds of girls who had been abducted in the last few months.

We were wild with joy now. The search was over. Below us we would find our quest. We knew at the same time that if we now returned to Cuzco with the news and brought out a squadron of rescue planes we would have been heroes indeed. But fired, rather, by the eagerness to carry out our own mission we decided in favor of landing, if we could only park our plane somewhere! We had no way of knowing then that our decision was to cost our party two lives, but on the other hand our own plans would have carried no weight at all in the next turn of events.

Turning back we continued to look for a clearing, but the winged men had already a different scheme for us. We had no sooner turned about when we heard murmurs through our communication lines from Wormley. We could not understand what he was saying, but it became noticeable to D'Arcy and myself that the plane was acting queerly. Then we almost took a nose dive, but with a superhuman effort Wormley held the nose up. He spoke into his phone.

"I'm losing control," he said.

We held on to our seats not knowing what was coming. It was D'Arcy who first noted that he was cold and I began to feel the chill in the air, a northern chill that did not belong to the equator. Then Wormley lost entire control of the ship. D'Arcy let out a yell. "We're moving backwards!"

It was true, the plane was actually running backward, and in a circling motion, the earth seeming swinging about the trees slipped from under us grotesquely and the propeller was whirling crazily. Too, it was growing dark around us although it was only about ten o'clock in the morning! I could see the sun shining as if through a haze.

When the propeller stopped we stared at the big motionless blades blankly. The engine was dead, but we continued to move around in a great circle as though we were being pulled along on a string! The chill was increasing each minute and we were shivering. I remembered the words of the pilot who had managed to broadcast the course of events before he fell to . . . what? What was happening to us? Were we to die under the hands of the men we had come to discover?

Now with the engine stalled we were moving faster and faster until below us through the growing darkness we could see the jungle sweeping crazily around in a blurred vision. It had become so cold that I was entirely numbed, my sense of feeling gone.

Then: "God! We're falling . . . falling . . ."

The trees were coming up to meet us. I had a glimpse of a big wall crashing toward us. I covered my face with my hands. The crash came and our screams reverberated in my ears as I sank into darkness that swept over me. And through it I heard voices and dreamed of giant eagles who were ripping my flesh from my bones.

The Toll

WHEN I came to consciousness I wondered at finding myself in a hospital room. I recalled after racking my brains what had happened. I remembered the day's flight, the flying men, the peculiar antics of our plane and the fall. Beyond that I could remember nothing and wondered now how I had been transported back to the city.

For some minutes I lay staring at the sky-light overhead, through which diffused a sunlight like that of northern skies. Then turning my head I stared at the four walls, and the white beds of which there were five beside mine. Two, I saw, were occupied. For a moment I did not recognize the bandage swathed face of the figure in the next bed to mine as that of Howard Wormley.

"Hello," I said, addressing that hidden face, "could you tell me what I am doing here, and how I arrived?"

The figure turned over and when he spoke I recognized him. "Well, it's about time you came to, old fellow. I hasn't been pleasant lying here for seven days watching to see if you breathed or not!"

"Oh, it's you Wormley," I said, "Where's Norton and D'Arcy?"

I heard him sigh through his bandages, "Norton died immediately . . . and there's D'Arcy in the other bed. He's been suffering horribly and it is doubted whether he will live or not! We've feared for you, afraid that you would go, too . . ."

As he was speaking I was realizing that I ached severely in many quarters. I felt as though I had been through a meat grinder. I shuddered when he spoke of Norton and D'Arcy. They were good fellows, two of the best reporters on the News, and good sports too. I peered over at the quiet form lying stiffly without movement on the third bed.

"Just what happened?" I asked, "and how did we get back here to Cuzco?"

"One at a time . . . and not so much at once, please. Who said anything about Cuzco?"

I looked about . . . "Why this hospital . . . this . . . "

"Yeh . . . this is a hospital, but not in Cuzco, my boy. You might as well know it now. You're a prisoner! At present you are in the underground hospital of the city of Number One of the nation of Mentor, old man, the headquarters of the people alated-homo . . . or what have you! But anyway the service is pretty fair!"

My pulse quickened. "So we did find them?"

"No," said Wormley, "They found us; we're invited guests!"

"Invited, hum? That was a fine invitation card they presented us with. Did you learn what sort of a contraption they used to make us fall? Must be a devilish thing. Perhaps we can arrange to buy it for the United States of America!"

"Not on your mug-print, feller. We're captives here and not somehow. Death to him who attempts escape! I asked about that woman we saw signalling us, but from what I judge she got . . ." and he passed his hand over his throat and uttered a colorful, "Quirk . . . "

"Hum . . . well, I'll have to get out to take the story back home . . . Walls do not a prison make. . . or iron bars a something-or-other. We shall see . . . Howard Wormley . . . . we shall see. Well, tell me something more about this Number One city . . ."

"Not so fast, not so fast . . . You're just recovering from a lot of what-not . . . do you think I'm going to talk you into a fever. No sir, you keep your mouth shut. I'm calling a nurse now, and after that we'll see what's what! And when you see the nurse . . . oh boy!"

As he spoke Wormley was reaching up to the head of his bed from which a bell cord hung. He pressed the button. "This isn't such a bad billet at that, Jimmy. They aren't a bad lot and are willing to treat us right if we do our part . . . "

"And what is our part?" I demanded.

"Simply to take upon ourselves a mate and help propagate the nation of Mentor!"

"Oh . . . ! "

Lois

FURTHER conversation stopped with the sound of footsteps coming along the corridor outside our door. Somehow I had never thought of the possibility of there being winged women. The papers had been full of winged men, but none had ever mentioned women with wings. Nor could I have dreamed that she could be so like an angel!

First I saw the gold of her close cropped hair, the blue of deep far-seeing eyes, a face such as Harris Fishel might seek in vain. Clothed in the tight fitting smock and snug trousers of Mentor she was a picture to behold and needed only the pair of beautiful rainbow-hued wings to make an angel of her.

She carried her wings as angels should, the tips appearing just at the shoulder line, the end feathers, long and fine, dragging several inches on the ground behind her. (Such Mentorites as have gone a-kid napping usually cut those long ends to prevent detection). Her hands were long and slender with the blue veins outlined under the sun-browned skin. It always puzzled me (I noted these last items at a later period) how the tall girl (she was five feet and nine inches tall without heels) managed to walk so easily and lightly on the tiny little feet she possessed which were so beautifully molded that they did not appear to have been constructed for use. Her shoes, incidently, were but flat soft pieces of tanned bird skins of about two dozen thicknesses, held on the bare foot by straps that crossed and re-crossed.

She had come directly to the side of my bed and when she smiled brightly I thought I should cry out with the pain of it. (And me a case-hardened reporter). "Ah," she said in an angel's voice, "at last you have awakened. We feared for you, Jim Kennedy."

My tongue clove to the roof of my mouth, else I might have said some silly insane thing. But I could only grin foolishly. Wormley, however, did the honors for me.

"It's not easy to kill these reporter fellows, Miss Lois," he said from behind his bandages.

"No?" she queried. "Are reporters a breed different then from other men?"

Wormley burst out into a wild guffaw that ended abruptly in the middle. His bandages were not there for decoration; his face was pretty well shattered, and secretly I was tickled that he had hurt himself for his cussed remark.

When he spoke again his voice came weakly. "It isn't the breeding, but the training . . . they only take the hardest, toughest men they can find for reporters, mal-treat 'em, take away their hearts and graft on 'em a nose that smells out news 'scoops' ".

Miss Lois' (heavenly name) eyes opened wide, then I saw that she had a good sense of humour for she laughed.

"You are . . . what you say . . . kidding me again. Howard Wormley. You talk too much. Now both of you go to sleep while I go to tell Doctor Morris that Jim Kennedy has gained consciousness."

As she was speaking she put her hand on my forehead and then professionally took my pulse, thrust a thermometer into my mouth and then tucked the covers around my neck after reading it and writing the answer on her charts. She then tip-toed softly over to D'Arcy's side.

Wormley and I watched breathlessly as she bent over him. She put her fingers to his pulse, but as quickly took it away, then with a white face she turned to us. "He . . . oh dear . . . I believe he is dead!" and she turned and raced from the ward.

In a minute she was back followed by a white coated doctor. He too bent over the still form, and we saw him draw the sheets over the face. Miss Lois brushed a tear from her eye. The Doctor now turned to me.

Doctor Morris was rotund, pink-cheeked and bald. The sight of him carried me back to New York. He might have been merely a physician paying his daily call at his clinic. He had no wings or signs of any. Surely he did not belong in the Brazilian jungles.

Later I learned that he was from New York, that he had come to Mentor of his own accord, preferring his work here among the flying people to his fashionable clientele on Park Avenue. Here he was head of the medical corps and he loved the winged people more than he could ever have loved his millionaire clients.

"Well," he said quietly, "we lost one, but we managed to save two!" and he smiled. "I surely am delighted to see you looking so good, young man. You almost went under. But you'll be as good as a new babe in a few days. No bones broken, but you were pretty well cut up around your head and shoulders. Had a slight concussion of the brain, too. Lost lots of blood. Now Wormley here broke a leg and got his face so cut up I am afraid his own mother won't be able to recognize him again."

He noted the readings of my chart and then bade us both to take a nap. With a friendly nod and a "Hope you like Mentor," he was gone with Miss Lois trailing behind.

Conjectures

NEITHER Wormley or I spoke, both of us thinking of our dead comrade in the other bed. Then I must have fallen off to sleep, for it was dark in the room when I was awakened by a nurse (not Miss Lois) bringing me some broth. The room was lighted with electricity, and I saw that D'Arcy's body had already been removed. After eating I fell asleep again.

I did not awaken until morning and I found Wormley already breakfasting and waiting for me to wake up. I was given some fruit juices by a nurse who, unlike Miss Lois, had poor little undeveloped wings on her shoulders. However, she was cheery and gay as she made us ready for the day. When she left us I turned to Wormley.

"Now, tell me something," I said, "about this place. What have you discovered about it anyway?"

"Feeling chipper, eh? Well, you'll be out and doing, I suppose, in a short while and I've got about a month or so before I can get around on this game leg of mine."

"Well, tell me what kind of a machine they used to pull us down with?"

"Sorry, but I can't say. No one seems anxious to talk about it at all. But after thinking it over it seemed to me that what we were caught in was a great man-made tornado."

I looked at him incredulously. "Man-made tornado."

"Um-hum" he nodded. "Just that. I've been thru one before and I know the signs. What else could explain the great force that pulled us, the sudden darkness, the chill and the feeling of the earth swinging around."

I shook my head sadly. "I don't see."

Wormley looked at me tolerantly. "Alright, here goes" he said. "I'll explain. A tornado, you see is caused by a sudden change, or movement of air Let a cold body of air sweep over a heated place and it will quickly descend and the heated air will rise. That creates a spiral movement of the air. The cold air descending naturally causes a sudden chill. while the great flurry of dust in the air ionized by electrical disturbances obscures the sun and causes darkness."

I was beginning to see. "But," I objected, "I always thought that a tornado touched only a small area."

"So it does" Wormley agreed, "That's why this one must be man made. What I think they did was to electrically ionize the dust of the air probably even throwing great quantities of dust into the air. And then they must use some gigantic machine to suck in the air to create the cyclonic movement in the higher regions."

I lay back pondering. So these people had command of a great knowledge of science. . .

"Well what do you think now" Wormley asked.

"Well, whatever it was, it certainly did the trick."

"Right", Wormley agreed. "It certainly is a wow and I'd like to have the chance to study it. Mechanics is my meat!"

"Well, all I'm after is the meat of the story. Come across now and tell me all that you've learned about this place. I'd like to get out of here as soon as possible and report this to the 'home folks' ".

"Boy, from the looks of this joint you're never going to see no home folks . . . take that from me."

I laughed. Show me the reporter who did not get home to report!

"You can laugh, but it's no laughing matter. I know that girl who signalled us got hers . . . and the Patriarch won't stand for any foolishness!"

"Who's the Patriarch?" I demanded.

"You'll know soon enough, but I guess I better enlighten you before you make any breaks for liberty! Well, in the first place you are now in the hospital of City Number One of the nation of Mentor as I have already told you. And City Number One is built entirely underground! No wonder none of us ever found it.

"It must have taken quite a bit of engineering too, with those gigantic trees overhead, most of them several hundred feet high. Everything here appears to be under a communistic sort of regime. Everyone works for a common cause—food, clothing and work is doled out by the city administration plan. Children are raised by the state, lives are directed by the bell. Everyone does his work on schedule. And over it all is this Patriarch.

"Haven't seen him yet, but I understand that he's a dictatorial boy, has 'em all under his thumb and they love it. He's a lady killer, too. Has a harem of his very own. His family has held the Patriarchship since the beginning of the race, so he's naturally the big billy-goat. I am led to believe that he will be making a tour of inspection in a few days."

"Have you seen any of the kidnapped girls?"

"No, not yet, though I understand a few of 'em are working here in the hospital. Doctor Morris says that most of the captives are happy here, too. It seems as if they enjoy the wholesome life! no 'sasiety' to do, no continual run of social duties,

no match-making mamas, no fighting to hold their places before the world. Here they are given what work they wish to do and the hours are easy; they can choose their own mates and live a simple quiet life."

"Yeh", I observed, "that's all right for a change, but how does a steady diet of it go? And what about their families back home worrying about them?"

Wormley shrugged his shoulders. "No need to get mad at me. I'm telling you facts."

"Well, then tell me the history of this glorious nation of Mentor. And what's the Mentor for?"

"That's part of the story. It appears as if the whole thing was started back in the sixteenth century, on the heels of Columbus by a chap by the name of Mentor! All this talk about evolution from birds is bunk. Yeh, man-made evolution. That's what it is."

I had to break into a laugh at this junction. "You certainly do ramble around your story. Now come across with it. You know I am anxious to learn what it's all about."

"Well, who's telling the story, anyway, you oaf? Oh . . . all right I'll give it to you straight then. Here goes, and please remember that I never took up story writing."

"Aw, go on, go on . . . "

CHAPTER FOUR

Wormley's Tale

BEFORE starting the tale, however, Wormley first plumped up his pillows and settled himself comfortably. Then he took a sip of water from the glass standing on the table between our beds.

"It is told," he began, "that there once lived a fellow by the name of Howard Mentor, English and Scotch stock, all scientists . . . of sorts, astrologists, alchemists, leeches or whatever they called 'em back in those days. Also some philosophers and prophets as well as some evolutionists in the bunch, too. And it seems that from father to son had come an ambition to put wings onto man long before they had the idea that machinery could be made to fly, or did they know anything about machinery in those days? I guess I'm a bit hazy about our ancestors at that.

"Well, anyway after generations of experiments it was this Howard Mentor who managed to grow wings on the back of a rabbit or maybe it was a white rat. Howard was feeling pretty proud about that I guess so what does he decide to do but to try some experiments on his own son!

"His idea seemed to be in taking certain glands from the throats of living birds and replanting them in his victims. He also injected some sort of solution into the body. Of course in those days they did not know that the blood circulated so it was a rather hit or miss proposition, and Doctor Morris seems to believe that little Howard was far ahead of his times.

"It had taken many generations to grow wings on the rabbit, but Grandfather Howard was not discouraged believing rather in posterity and aimed to do as much as he could in his life time. He began right there to attempt to improve the human species by performing the same operation on his own offspring. He forced his wife to take the injections, submit to the operation, and also to swallow another concoction that he brewed himself made from some part of the bird.

"In the next ten years he had produced a pretty fair nucleus for his future generations, his wife giving birth to nine children of both sexes. When she, poor woman, died, he managed to take upon himself another wife and by using the same methods brought a half a dozen more children into the world inoculated with the virus that was eventually to bring about his heart's desire.

"Luckily Mentor had much of the world's goods to his credit. He had a vast estate somewhere in the back-skirts of Scotland so there were no prying eyes to watch and condemn him. His next task was to obtain wives for his growing sons and husbands for his daughters. His oldest son was fifteen when he found a wife for him. She submitted docilely to the old man's administrations and within a year their baby was born. Mentor was not disappointed because it was born like all other babies. He knew how to bide his time.

"In the meantime he had been teaching his sons and daughters his science and nurtured in each one of them the desire to see men and women on wing. Perhaps a few went astray from the fold, but there is no record of such in the annals of Mentorian history. Perhaps some of his son's wives rebelled, but our Lord Mentor knew how to quell that. Perhaps the servants rebelled and grumbled at the strange mixture the master of the house demanded be cooked with all foods so that all dishes tasted very much alike. But that was the day of serfs and feudalism, and servants were not problems then.

"The most difficult task that Father Mentor had to do was to marry off his daughters. Young lordlings, counts and the like, did not care for the idea of leaving their own paternal estates to live in the already crowded castle, isolated from their kind. One or two whose fortunes were not so secure came attracted by the beauty of Mentor's daughters. A third son of an Earl who had been destined for the church married another of the beauties, but there the supply ended. So Mentor was forced to go down into the cities and buy up youths who had been incarcerated in the debtor's prisons in order to marry off his remaining daughters. It must have been a great pleasure to the old boy when he married the last of the brood off!

"One can wonder what discords must have arisen in the paternal home with more than a dozen different families under the same roof, for now the children were being born so rapidly that it was almost too much to keep count. Mentor was present at each birth anxiously expectant as to what may be brought forth. He all but wept when his youngest daughter brought into the world a little son that had for arms what looked very much like the wings of a fledgling bird.

"There was a soft down on the strange appendages and it looked as if the little fellow would one day be able to fly! Fly he might, but his arms had been sacrificed. The little mother must have wept over her maimed darling and Mentor surely wasn't happy over it, but at the same time he knew that the first rung of the ladder had been climbed. They could only hope that this was an accident. The scientist again went into his laboratories and brought forth another mess that was added to the diet of his family.

"The new baby became the pet of the family and they all tried to keep him from knowing of his loss. At four years old they tried to teach him to fly, but the wings had not matured and were weak sticks. They did act as a sort of support when the little fellow took jumps from the top of a flight of steps and landed at the foot nicely balanced with his feathered arms outspread. The down of the wings had grown into small feathers, unevenly distributed the length of the wing, but they had none of the beauty of the present-day wings of the people of Mentor."

Off To Mentor

"AND so," went on Wormley after sipping some more water, "All went well until the third generations began to arrive. For his grandchildren Mentor had taken the easiest course and married cousin to cousin, hoping in this way to hasten his evolutionary trick.

"His cry of joy was heard throughout the castle and into the valley below when the first great-grand child came into the world with odd protuberances on his little shoulders. They were no more than little lumps with the least suggestion of down upon them, but they were the first link of the long chain. It mattered not to the grandfather that the mother of the babe died in giving it birth, for that night was one of celebration. There were no invited guests to the feast; Mentor had no desire to make the world aware of the nature of his experiments.

"More children were born, some had the humps on their shoulders, some did not; but two were born with more definite suggestions of the sought for wings. Then the son of the arm-less grandchild was born, and lo, he had wings, true wings almost as long as his body and arms as well!

"Mentor might have been able to rear his family in Scotland and there the race might have grown as well as in the jungles of South America had not word slipped out to the authorities in Edinburgh. Had a servant told or had one of Mentor's offspring slipped away and tattled? The truth can't be learned, but it was enough that a small army of soldiers of the king came to the stronghold and demanded in the name of God, the Pope and the King as to what sacrilege had been perpetrated here in this fastness.

"Mentor had in some way been forewarned and the monstrosities had been secreted away so that the officers retreated somewhat disgruntled and empty-handed. Still Mentor wisely foresaw that this was the beginning of the end. Word of the discovery of new land to the westward had reached Scotland and the stalwart old gentleman who was not to be thwarted decided to leave the narrow confines of his native country.

"So it happened that the Mentor clan embarked for the new world, and the old world was left in ignorance. Mentor first went to the nearest seaport and there with his money bought men and women who were willing to go to the new country across the sea. He chartered a ship, provisioned it and with some plausible excuse to the authorities, no doubt, started out for a nice quiet place where he could carry on his good work for the betterment of humanity!

"The ship was headed for North America, but a storm arose out of the night when the ship lay presumably not far from the Virginian coasts. The storm drove them south and then out to sea again and raged for three days and three nights driving the ship ahead in its fury. Somewhat crippled, they limped on taking bearings by sun and stars and hoping that land was near. The captain was new to this part of the world and only the offer of more money than he had ever heard of before had brought him this far. He had no idea where the storm had carried them and hopefully had headed west and a little south. One when they saw land they made for it, but a great number of Indians put out in their canoes and in fright the captain ran away.

"Then, when they were possibly off the coast of Florida, a second time a storm caught them, a storm of hurricane dimensions and again bore them out to sea. During the storm's wildness the crew in fright and frenzy murdered not only the captain but the two mates, so that when the storm abated at last, the ship's company found themselves without a single navigator aboard. The crew would have murdered Mentor, too, but he defended himself well.

"A month passed and now the almost wholly crippled vessel wallowed through the seas and drifted without guidance. Food and water was low and disease was stalking the deck. Mentor, old and broken, now died and was buried at sea. Horace Mentor, the eldest son, took charge.

"Realizing that all would be lost unless something drastic was done, he ordered the planks torn from the deck's floor and the women give up their petticoats to make a sail for the single slender mast that stood. Every able-bodied man was forced to take his turn at rowing so that after the sixth day the lookout atop the mast cried 'Land!'

"Thus the Mentors came to the coast of Brazil. They found food in plenty, made friends with the Indians and built palm thatched houses for themselves. Spaniards came, but they looked with friendly eyes upon the growing settlement knowing that the Scotch were as deadly enemies of the English as they themselves."

The Founding of A Nation

"GEE," broke in Wormley, "this is a story and a half. Doctor Morris told it to me, but I'm sort of condensing it."

"Go on, you're doing fine."

"Well, to make the best of the long tale . . . the Spaniards continued as friends. They were for the most part pushing into the interior of the country searching for gold and they did not see much of the Mentorites, but by that time children were being born with appendages that were true wings.

Birds there were in plenty so that the Mentors had all the serums and solutions and glands they needed. The Indians were the first to discover that children with wings were appearing among the white settlers and there began a time of persecution for the children of Mentor.

"The next two centuries of their existence appears to have been made up of flight, fleeing from haven to haven until at last they founded this settlement here on the edge of Peru with only a few savage tribes as neighbors, savages who look upon the *alate* as gods of some sort and have no intercourse with the white men.

"Wings have come to them to stay, and they have prospered out here in the wilderness. Eventually the need of importing new blood drove them to stealing women. Occasionally, too, it appears that men have been picked up and brought to Mentor for the same purpose. Mentor, I believe, could account for the disappearances of whole scientific expeditions that have never been heard of again. They refuse to breed with any but people of their own race, hence the fact that Latins, Semites et cetera are never captured by them. Many of their women die, too in giving birth to their children, and of late they have found it necessary to bring in as many women as they can find so that the dynasty they have planned can be brought into being . . . "

Wormley sighed, "And that's that. Simple, eh what?"

"It all sounds highly improbable." I noted. "I think that if I pinch myself I'll wake up."

"Don't do that," laughed Wormley, "for here comes our pretty nurse Miss Lois . . . And if I am not mistaken you are very much taken . . . eh?"

She came in smiling brightly and inquired as to how we were. She seemed to guess that we had been talking and she shook her finger at us and admonished us for exciting ourselves. She took our pulse and temperature and left us with directions to sleep.

"Some baby," commented Wormley when she had gone.

"It appears to me," I said, "that I could learn to like Mentor after all'"

CHAPTER FIVE

Convalescence

THE next week I spent in bed convalescing though I had very little pain. At first I was given a liquid diet and later more substantial food. Fruits, green vegetables, bread of corn and wheat flour and a few different varieties of wheat and fowl constituted the menu of Mentor. I noted immediately a strange foreign taste that I put down to some new condiment, but Wormley quickly put me straight. The strange flavor he said was due to Ingredient "B" that was fed to every man, woman and child in Mentor. Once a week Ingredient "A" was injected into our blood and twice monthly Ingredient "C" was added to the menu. I can't say that any of it was very tasty. I learned later that I had already had a gland operation.

"They're making full-fledged Mentorites out of us, old man," Wormley declared.

The second week I was allowed to sit up in a chair to take short walks in and around the hospital. I discovered just how complete an institution it was. Everything was kept spotlessly clean. Most of the work was devoted to the maternity wards where the young Mentorites were brought into the world scientifically and as easily as possible. One mother out of eight usually died in giving birth to the winged babies. The death rate had been higher before the coming of Doctor Morris and he was doing all he could to reduce it still more.

There was a dispensary to attend the every-day sicknesses and accidents such as those brought about by deadly insects or by the winged people who sometimes misjudged distances and hurt themselves on limbs of trees, etc.

Diseases were practically unknown even in this fever-infested land—for every precaution was taken. Healthy people are not prone to become diseased and the *alate* were healthy without a doubt. Then too, I discovered that every new captive was quarantined miles from the city for the duration of a month before they were allowed to intermingle with the Mentorites, and during that time their blood was purified and thoroughly cleansed of any lurking germ-cells. The reason that Wormley and I were not quarantined, of course, was due to our session in the hospital; and I learned that we had been completely de-germed.

On the fifth day of my convalescence, I was allowed to climb the flight of steps that led upward and into the jungle. The trees grew high and thick and the sunlight had difficulty in finding its way through the branches. To offset this lack of sun in their underground cities every citizen whose work did not bring him into the sunlight was forced each day to take a sun-bath either in the clearings or else on platforms reared high in the trees—where the beneficial rays of the sun could penetrate. And once daily a strong violet ray was switched on and swept throughout the city.

A path led away from the entrance to the doorway through which I had come. The door itself was in the trunk of a giant tree that had been hollowed out and the bark placed on the door-panel so ingeniously that it was difficult to detect that it was a doorway from the outside. Nor was the path I trod a distinct one. It might have been one made by animals or the Indians.

In fact, a stranger might have walked all about the 'city' or rather atop it and not know that life seethed beneath his feet. He might have even made his camp on the top of one of the sky-lights of the underground community without being aware that glass and concrete were his bed.

The jungle had been cleared to some degree so that the winged people might move about more easily, but the clearing had been done in such a natural manner that one passing through the area would not have noticed particularly that it had been cleared. Strangers had in fact actually passed this way or camped hereabouts without being the wiser. No wonder Mentor could not be discovered by plane!

As I came into the forest I met Miss Lois who was also out for an airing. She joined me and pointed out the points of interest as we strolled

dlong. Never before had I met a girl who was so natural, so simple—without any little coquetries or subterfuges that one usually looks for in the sex. She accepted me merely as a companion and expected me to do the same with her.

Several Mentorites passed us, men and women with their variegated wings dragging in the dust behind, all clad in the tight fitting costume that gave no resistance to the wind in flying. One fellow passed who had the half formed wings of the "Earthbound" as they called them, the people bred of the two races, winged and unwinged.

There were many of these people in Mentor destined never to fly but to give birth rather to children that would, one day, fly. They took their place in the ranks as did the others. They were, in fact, the workers, holding responsible positions in the underground stronghold. They were merely a part of this strange evolution.

Once, overhead, I heard the beating of wings and Miss Lois bade me look up. Doing so I saw perhaps a half a dozen or so winged people flying down toward us through the trees. At first I believed they would surely tear their wings upon the branches of the trees, but in looking more closely I saw that the great branches of the trees had been cut away to allow about twenty feet clearance, giving the *alated* an entrance and exit to the world. These avenues were cut at regular intervals so that there would be no danger of crowding when danger lurked above.

Sightseeing

LATER by carrying me up a distance of about fifty feet Miss Lois showed me other avenues cut horizontally through the trees to give passage to those who did not wish to expose themselves above the trees. They could fly many miles within the protection of the jungles in this manner. There were many of these paths criss-crossing through a great area. Where the trees became thin and gave way to glades and clearings wingless men were usually stationed to give warning if danger was about.

We now approached one of the natural clearings where many people, children and adults alike were playing or sunning themselves. Here were groups of woman sitting or lying in the grass talking and working over lengths of cloth, embroidering feathers on jackets, shaping garments. Here, for the first time, I saw a number of fellow "captives."

Upon our entrance into the glade a tall, slender, dark-haired girl jumped to her feet and came running toward me. Almost immediately I recognized her from the picture I had seen in the papers. It was Miss Marion Hally. She stopped short a few feet in front of us.

"You are a newcomer, aren't you?" she asked me in a low, throaty voice.

"Yes, Miss Hally," I averred.

"Ah, you know me!"

"Only by your photos."

"Tell me, then," she said, "have you heard anything about my father? I have been sick with worry about him. How is he taking my disappearance . . . he had only me . . . you see . . ."

I told her of her father's offers of rewards for her recovery. Beyond that I knew nothing else. She sighed and without another word returned to the group she had deserted.

"That," said Miss Lois, "is the trouble of stealing these poor girls. They could be happy with us, I believe, if only they could get in touch with their people and let them know that they are well . . . "

"Yes," I said, "the world is not going to stand for this wholesale abduction of yours very long!"

Up came Miss Lois' chin. "We do not have any fear of that, Jim Kennedy, Mentor knows how to protect herself!"

"Well, why don't you come above board and show your hand to the world instead of this miserable woman-stealing?"

She shrugged her shoulders. "It is not for us to ask, Jim Kennedy. The Patriarch will deal with the world when the Time comes!"

"Then there will be a Time?"

She smiled. "Yes, the time is coming when the world will realize that we are a factor to be reckoned with! They will gladly give us our place in the World Court!"

"Unless they annihilate you entirely!"

"And that is impossible of course."

I said nothing to that, but I felt it highly improbable that this handful of people could stand against the world.

"May I ask . . . how many people have you here, Miss Lois?"

She nodded. "Surely. We divide our population into two parts, the winged and the Earthbound. Of the former we have here in Number One a little less than thirty thousand! Of the latter there are about ten thousand! Of children under the ages of sixteen there are forty thousand! Then in each other community there is almost a like number."

Jim Learns Much

TO say I was astounded was putting it too mildly. I turned upon Miss Lois in wonder. "You mean that there are eighty thousand people living here in this area?"

She nodded. "Certainly."

"And this is only one of several like settlements?" I queried.

"Yes, at present we have six communities, and the Patriarch is directing the construction of a seventh city. He has decided that it would be well for us to have two cities devoted entirely to children. Our quarters here are becoming too crowded."

"Hum, then you have a population of almost a half a million people. Good Lord it sounds impossible."

She laughed up at me. "We have forgotten to include the 'captives'. There are about two thousand of them at the present time! And by the end of the year the Patriarch expects us to have about ten thousand!"

"My God!" I was flabbergasted. "A half a million people here in this jungle."

"Mentor now covers about sixty square miles and still continues to grow. Each settlement is about four miles in circumference for we always build from a hub, and each settlement is laid about fifteen miles apart to give room for spreading."

"A few well laid bombs could almost demolish it!"

"And who is going to lay the bombs?"

"Outside they now have a pretty fair idea of where Mentor lies."

Miss Lois shrugged her shoulders. "That really matters very little. You shall see how little one of these days!"

"You mean that no plane could ever reach here because of that infernal machine of yours?"

She nodded her head. "I am afraid so."

"Oh, well, I guess the future will have to decide that."

She did not answer me but now we had turned back to the city. I was thoughtful during the remainder of the walk. Gosh, if only I could get out of this place and tell my story to the world! What a scoop this was going to be. The girl's words, however, made me realize just how hard it was going to be to escape. If, as she said, the surrounding country was populated so thickly with her people what chance would I, a puny man without wings, to fight my way out into the world again. And with what I now knew it was evident that they were not going to allow me to escape.

Miss Lois appeared to have read my thoughts. "It is impossible for anyone to escape from Mentor. Our Patriarch is not quite ready for the world to know and it is death to any who makes the attempt." She went on to explain just how great an organization her nation was, how it had already thrown out its tentacles into the world in general all unbeknown to the Outside.

I questioned her about the food supply, and her words told me that Pedro Majes had not lied when he spoke of the plantation to which he had been borne by the winged men. Mentor had not only one plantation to raise her food, but many in some of the most fertile countries of the continent.

It appears that those born entirely devoid of wings were used for the purpose of going out into the world establishing themselves and working only for the good of their race. By taking Spanish names a dozen or so Mentorites owned and controlled the plantations from which the winged men carried off by night the foods that they needed. It was from the estate of one of these men that Marion Hally had been spirited away!

They owned mines in the same manner, rubber-plantations, and air lines were controlled by the far-reaching arm of the Patriarch of Mentor! The wealth from these enterprises of course flowed in a steady stream into his coffers.

And to further the interests of the nation were another corps of men and women, the diplomatic corps that found places of responsibility all over the world. They insinuated themselves into positions of trust in Washington, in London, in Paris and in fact in all the capitals of the world and were accepted by their fellow-men as one of them; while in truth their lives were dedicated to the interests of their own race. It was possible therefore for them to accomplish much for its welfare.

It was through one of these "spies," that that infernal engine that had brought our plane down was bought and brought to Mentor. It had been invented by a German just after the Great World War and under the Patriarch's direction had been purchased for this jungle home ere the world was able to learn about it; and all but one blue print destroyed.

In the same manner Doctor Morris had been brought to Mentor enticed by the tales of one of the Patriarch's agents who proved to the Doctor the need of the jungles for medical aid. And because he had tired of the humdrum life of New York City he had come to take complete charge of the health of the five hundred thousand souls within the confines of the jungle.

Every necessity that was needed was brought from the Outside, just as electricity was carried hundreds of miles across the continent by cables and conduits from three or four points in South America. The cables were cleverly laid; either in the trees or underground as the topography of the country demanded.

Only a continent such as South America with its great unexplored spaces, its great natural resources, its jungles, could have held the secret of Mentor. I could only gasp as I thought of what a prodigous organization had grown out of the aimless fumblings of Howard Mentor with man-made evolution. Could this strange though powerful nation some day put its mark on the world?

CHAPTER SIX

The Patriarch

ON returning to my room, where I was still bunking with Wormley, I told him of all I had seen and learned.

"God . . . if only the world knew! Drastic steps need to be taken if the government hopes to do away with this menace," he averred.

I shook my head. "No . . . nothing can be done. You can't wipe out a half a million people easily . . . not unless you dynamite half of South America! No, Wormley, this is a tremendous thing and mark my word the world is going to realize very shortly just what they are up against. And warring with these people would be like warring on mice in a hayrick . . . you either have to smoke 'em out or burn the hay . . . both of which methods would be too difficult in this area."

We both fell to thinking and were aroused only by the appearance of Doctor Morris. He had come to remove the bandages from Wormley's face. Morris, and the Earthbound nurse who had followed him, worked for several moments and then revealed the scarred face of the aviator. Wormley had never been handsome but the added ugliness of his face gave him an attractiveness that later was to prove irresistible to the women of Mentor. Wormley refused the mirror Morris held for him. In fact, thereafter, he never so much as attempted to shave himself as it would force him to view his "mug".

After the operation was over and the nurse had left we commenced questioning Doctor Morris. He appeared to enjoy our conversation, wanted to know all about New York.

"Do you think, Doctor," I asked after I had led up gradually to the subject, "that you are doing the proper thing in helping these people as you have?"

He looked at me in surprise at such a notion. "Isn't it always right to 'help', young fellow?" he asked with a quizzical twinkle in his blue eyes.

"Yes . . . but in doing this you are being unpatriotic in giving yourself to these people who are rightfully the enemy of our own nation!"

"And what, my boy, is patriotism if it is not to follow the dictates of your own heart? Does a man have to be born to patriotism . . . can't he adopt it?"

"No," he continued, "I do not feel at all traitorous because I have renounced my citizenship of the United States of America and substituted for it the citizenship of the Nation of Mentor.

"A great many of the 'original settlers' of the States were criminals and convicts sent from England in order that the new colonies could be populated. Do we look down upon Britain because that was once her policy? Then why should we condemn these people for taking the best of womanhood from the countries round about to establish themselves?

"True, it is hard to see it in that light and you may say my argument is illogical, but I am with the Mentorites to the last man and I will do everything in the world to help establish them. Some day they will have their place in the world and they will prove the superiority of wings over machinery!"

That night Patriarch Mentor deigned us the favor of his presence in our ward. He came followed by the two aides that were never known to leave him, two large well proportioned men of perhaps forty or fifty, winged and as stern-visaged as he.

The Patriarch was a singularly tall man well over six feet, with wings of monster size. They were raven black, glossy and ashine in the shaded light of the room. His face was the face of a powerful man, a man whose entire life had been spent in attaining power; the sharp gimlet eyes and the hawk-like features with the sun-tanned swarthy skin accentuated all that. He was, I judged, forty years of age. He was clothed in a suit entirely covered with long black silky feathers. Sometimes he wore white, but never any other color.

As I studied him I was suddenly aware of the fact that the description fitting him so well, corresponded with the newsbit concerning the abductor of Marian Hally; he also was blackwinged and hawk-faced. Later I learned that Marian Hally was one of his wives! So the Patriarch was not above doing a little kidnapping on his own.

I was seated in my chair and Wormley was sprawled on his bed. As the personage entered the room I unconsciously arose to my feet. His very bearing was enough to inspire one with a sense of his majesty.

A Challenge

HE was the first to speak and his words came sharp and cutting

"Ah, Messers, you have indeed given Mentor an honor in condescending to pay us a visit," he said, "and to throw your lot in with ours! We trust that you will learn to look upon Mentor as your own." The glitter that shone in the dark eyes was the Patriarch's manner of expressing keen enjoyment as well as laughter.

"However," he continued, "I regret, my friends, that your arrival accidentally broke your little machine and of course it will be impossible for you to find your way home through the jungles."

"In other words you are informing us that we are your prisoners, eh?" shot out Wormley.

"One addresses the Patriarch as Sire!" One of the attendant aides spoke, fastening cold eyes upon the aviator.

Wormley shrugged his shoulders. "You mean we are your prisoners . . . sire?" he repeated and I could only grin at the audacity of his slurred emphasis on the word.

Again the gimlet eyes glittered. It could be seen that Mentor enjoyed a show of spunk.

"You are mistaken, Pilot Wormley," said the cold harsh voice, "we have no prisoners. When you have been entirely healed and found to be in good physical condition you will be given the freedom of Mentor. What the jungle holds for you we can not answer. You will find Mentor a pleasant place to dwell in, our rules are simple, our food plentiful. True, our amusements are not many, but our women are said to be . . . pretty, and we trust you will be glad to make your home with us."

"And if I do not come up to your physical standards . . . sire?" again the emphasis on the word.

The Patriarch shrugged. "We allow no imperfect beings in our midst . . ."

"Then, would I be allowed to return to my home, sire?"

"The jungle lies before you!" and with that laconic statement he turned on his heel and with his shadows departed as quickly and silently as he had come.

"Well, that's that, gentlemen," concluded Wormley. "He dares us to try to get out!"

"I'm making no attempts to leave here until I discover all there is to know," I declared.

"And then you will continue to stay, my dear friend, if I judge that nice amiable gentleman right!"

We both laughed uproariously as if it were a good joke, but I am sure that Wormley as well as myself felt just how tight the net lay about us. Surely others had tried to escape ere this and had they reached safety the world would have known.

More Sightseeing

THE following day I was given my discharge from the hospital after Doctor Morris had given me as thorough an examination as any man ever had. Evidently I proved to be physically fit as I was put in the charge of a youth whose wings were but little stumps between his shoulder blades. He led me to my new quarters through a long underground corridor. I have forgotten to note that from the first I had been wearing a suit of clothing exactly like the Mentorites, close fitting and feather embroidered.

One could only marvel at the ingenuity of the Mentorites in constructing their city under the ground; it had taken hard labor and fine engineering to dig out the large chambers and tunnels beneath the jungle giants whose roots often could be seen enclosed in cement. It must also take care to keep alive the trees whose roots were so embedded.

I was led into a fairly large chamber, the roof of which was upheld by a number of sturdy columns. This, I gathered was a lounge, for there were chairs, tables and settees placed conveniently about. The furnishings were of the simplest, being for the most part home-made specimens fashioned from small saplings and roughly finished. Cushions of native cloth were filled with soft feathers to relieve the body from sharp contact with the rough wood. The chair backs were very low for the benefit of the winged people. A carpet woven of rough dried grasses covered the cement floor. Everything was clean and neat and disinfectants were used to keep the air clean and sweet.

Here and there on the wall were hung examples of Mentorian workmanship, tapestries woven from variegated feathers often depicting scenes from the life of the city as well as of the jungle, birds and flowers. Too, there were a number of paintings done by native artists that showed power and understanding. Skins of jungle creatures, jaguars, armadillos, tapirs and alligators were placed about. Yet with all these embellishments the plain severity of the room shone out with something like puritan simplicity.

Several doorways opened from this general room, and through one I saw the long tables that bespoke the dining room. Odors emanating from there told of the noon-day meal in preparation.

In passing through the lounge my guide, of course, had not stopped but took me directly through it to another corridor. The open doorways showed me fairly large-sized rooms with beds set in neat rows. He took me into one of these rooms. There were ten beds to the room, made of saplings with springs woven from hemp, mattresses that were filled with sweet smelling grasses and covered with thin blankets of feathers.

This was one of the male dormitories. On the other side of the lounge were the rooms for women. The ceiling was rather high and I descried several openings in it and could feel the current of cool fresh air that came through them. I found that this ventilation was forced through the city by the means of great fans; the air, being brought in by big suction pumps, was cleansed and purified before it was distributed.

Electric fixtures were fittted into the ceilings, fixtures that were of plain white glass, the lights burning throughout the day and night, until, at the proper hour, they were turned off simultaneously an one point in the city. Electricity was only source of power; they cooked with it as well as used it for lighting.

Jim Learns the Rules

MY guide pointed out the bed that was to be mine and on questioning I found that a bed was reserved for Wormley next to it. I was glad of that. The youth then gave me a number which was to be mine in the dining hall. Meals, I learned, were served at regular hours and woe to the one who was tardy; he must go hungry until the next meal unless he could wheedle a bite from a kindly cook in the kitchen.

Mentorian kitchens were models of modern equipage. A small army of workers prepared the foods, each man and woman employed there having his own routine laid out for him. The bins and closets that held the food supplies were roomy and beautifully kept, and even though the kitchens were underground not a bit of smoke ever lingered—for suction fans carried it off and the smoke itself was chemically dissolved so that not a wisp of it ever escaped. Too, great fans kept the air sweet and fresh.

Life in the city was run by clock work. There was the hour to arise and the hour to retire, the hour for relaxation, the hours for work, and to deviate from the routine was considered a serious offense. Punishment was not meted out to the culprit, only there was the disapproval that shone in the eyes of his fellow; for a laggard as well as a sluggard was to Mentorites as bad as being a thief or a murderer.

And to every man and woman was given a job either manual, clerical or executive whatever he or she were best suited for. Idleness was not tolerated.

In each day's schedule there was plenty of time for relaxation, and by relaxation was meant the hours that belonged to the individual to do with as he wished. There were hours for drill, for the winged people. This meant drilling in formation, army drill in other words. For the Earthbound and Captives it meant drilling to evacuate the city in record time, a sort of precautionary measure in case of fire or attack.

Every flying man and woman belonged to a company and the officers were designated *only during drill hours* by a colored band around the forehead, and their rank was achieved *only by work*.

Even the children had their drills and earned their places in the ranks only by their achievements. After seeing one of the drills I decided that Mentor was well defended. It was to be seen that they were never to be taken unawares by their enemies.

I became very interested in the Mentor manner of child rearing. Children stayed with their mothers up to the age of five years when they were turned over to the educationalists trained specifically for their work. The children had their own lounges and dormitories, their class rooms, their hours for work, for play and drill; and beside their school work were small tasks and duties for them to perform.

Nor did it appear to me as if these people suffered for the loss of what we on the Outside consider our heritage, *the right of the individual*. They were healthy, strong, happy, normal. There were no police nor courts for the simple reason that there were no thieves, no madmen, no vicious tri-cornered affairs that necessitated litigation; no murders, no divorce. Children were as gay and happy as if they had a mother's care, as joyous and carefree as any child upon the Outside; more so, I should say, since there were no class distinctions, no race prejudices, no snobbishness; the same abundance of food, the same clothing, toys and play hours. What more could children want? Love? Could any normal man or woman help but love the little things? They had their little friendships, their little loves, the comfort of each other's arms and guardians who had only kind words and loving pats for them. A teacher who mistreated a child was taken from her charges and put to other work.

For the adults there were their own friendships, their mates, their amusements. A man had a right to take the woman he loved to mate, *but he was not compelled to take her for life.* True many a man or woman took upon themselves a single mate for their life-time and they were happy in each other's love and lived their full happy days knowing that with the end of the days they would have each other again. And there was the pure blue sky and the bright sun above into which one could plunge or climb to the dizzy heights, race with the birds and look about and survey the world as far as the eye could see. He could know that he is the happiest of all creatures on Earth because he possessed the medium to express his soul's desire . . . wings . . . to climb with the eagle . .,. to sing with the lark!

Amusements they had, too. There were races run in the clearings, tournaments held in the air, pageants enacted, plays performed. There were sing-songs, games, competitive drills. There were five holidays in the Mentorian calendar. One marked the birthday of Howard Mentor, their common ancestor; one for the day on which the Scotch ship had put to sea; one for the arrival in Brazil; one for the settlement of present Mentor; one for the birthday of the reigning Patriarch. On these days there were opening prayers and no work was done except such chores as were absolutely necessary.

Could life be more complete anywhere else on the the globe?

CHAPTER SEVEN

Ready For Work

FOR a week I was given the freedom of the city. I wandered down one corridor and up another; into chamber after chamber, up the steps to the jungle or down to the lower levels where were the workshops. Here men and women worked alike, making cloth, skinning birds, plucking and sorting feathers, tanning the skins, and manufacturing all kinds of necessities that were not purchased from the Outside. There were furniture shops, mechanical shops, a sugar refinery that treated the raw sugar as it came from the plantation.

Throughout the city were many small swimming pools distributed on the third level, and here I spent a great deal of time in the cool water that was brought underground from the rivers hereabouts. The winged people were not very good swimmers, in fact, they never went into the water to swim but rather to bathe. To wet their wings meant many hours to be spent in drying them. They kept the feathers clean with oil baths, and there were a number of chambers devoted to their care just as there were the tonsorial parlors to keep their hair and beards neatly trimmed.

I visited the hospital often for Wormley was still confined and Miss Lois was usually about. She and I had become fast friends. She, I had learned, was a cousin of the Patriarch and she was a head nurse in the hospital directing the work of the nurses under her. There were a good number of doctors whom Doctor Morris trained; conducting a school for their benefit. He was kept rather busy traveling from one hospital to another in the settlements supervising the work and taking charge of the most serious cases.

I learned that Mentor was equipped with the telephone system so that all the cities were linked together and there was also a radio hook-up! The Patriarch had a giant receiving set in his own quarters and often we were given musical concerts from all over the world.

Almost every day new recruits were arriving in the Detention Camp some twenty-five miles beyond Mentor. I could only wonder what this would eventually bring. It seemed as if the hour had almost struck for Mentor to announce herself to the world.

In the meantime I knew that my time was growing short. The usual procedure with the newcomers was to give them a few days of idleness in which to learn all they could about the nation of Mentor; then they were required to state their preference for the type of work they should like to do best, and more than a week of idleness would not be tolerated. In fact, I was anxious to be up and doing, for the enforced idleness was becoming unbearable, especially in a world where everyone was busy.

It was Wormley who made a suggestion of what type of work I could accomplish here in the city and I was directed to seek out the Patriarch for his approbation. I found him in his quarters which formed the hub of the city. I had to wait in an anteroom until my turn came for an audience. After an hour's wait I was ushered into *the presence.*

The room in which I found the Patriarch was furnished in Spartan simplicity, a table and three or four chairs were the only pieces of furniture. A grass rug covered the floor and behind the Patriarch's chair was the full length portrait of a man whom I immediately judged to be Howard Mentor, a dark-visaged man with the piercing eyes of one who had spent a life-time in realizing an ambition He was dressed in the colorful costume of the sixteenth century.

The Patriarch merely nodded his head by way of recognition when I entered the chamber and he heard me through, quietly, as I outlined my plan for establishing a newspaper by which Mentor might be informed of all that took place in the various settlements and what news filtered in from the Outside. I rapidly explained plans for various departments and for the training of printers, reporters, et cetera.

The gimlet eyes bored me through, but somehow I felt an awe for the handsome man. I think I judged him right, for in him I saw a very human man with a deep sense of humor as well as honor. I had admired him intensely from the start and now I found I had not placed my regard improperly. Here was a man of power who could take his place in the world among kings.

After finished speaking he nodded his head slowly, and his cold hard voice spoke in his rapid emphatic way. "I expected as much from you, James Kennedy. Once a newsman always a newsman, eh?" and his eyes glittered. I grinned.

"That will be all," he shot at me. "Your suggestion will be considered and you will be advised as to my decision."

And I was dismissed.

I went back to Wormley and told him of the rather one-sided interview. "He sure is one cussed gentleman," laughed the aviator, "but I don't know but that I like him. Wouldn't mind a good poker game with him!"

Strange Stories

A SECOND week went by and I heard nothing from the Patriarch. I was impatient to start something for time was hanging rather heavily on my hands. I visited and revisited the workshops, the schools, the playgrounds. I spent a great amount of time above ground in the clearings. People went past me as they hurried about their duties, and only during the hours of recreation could I mingle freely with them. I made the acquaintance of a number of the captives, girls who seemed happy in their new strange life. I heard some of them complain, but on the whole it appeared that they were content, or at least had accepted their lot with proper spirit. They had all been given work according to their own interests and those who had no interests were being taught simple tasks.

There were not only female captives, but quite a number of men who, like the women, had been spirited away. Several were aviators who like ourselves had fallen to the toil of the Machine. Of those that had been kidnapped two of them interested me the most with their stories.

Charlie Broner told the tale of the flying girl who had appeared to him in a moonlit garden in Buenos Aires while he strolled trying to sober up from a drinking party. Under the influence of liquor he had thought the winged creature an imagery of his besotted brain and gleefully demanded that she give him a ride in the air. He awakened from his stupor to find himself being carried over a jungle when the sun was dawning. Twice he had tried to make his escape from Mentor, but each time had been brought back. Being an architect by profession he was now employed in construction of the underground cities.

Eugene Fargo's tale was of different tinder. His name was not unknown to me, and I recognized him immediately as a sculptor of great promise. I could even recall having seen an article in the News stating that the artist had purchased a cay off the Floridan coast where he planned to work unmolested by "lion hunters" that were his pests.

With his negro valet he had sneaked off to the island with several uncompleted pieces of work. One morning as he came down to the water for his morning plunge he was startled to see what appeared to be a gigantic bird barely skimming the water and struggling with one wing to keep afloat. He watched it struggle nearer, but it was too weak and at last after a hard battle gave up, its strength gone, and fell into the water. There it continued to fight, keeping the one good wing above the water.

Admiring the heroic creature, Fargo called to his servant to help launch a boat and they rowed out to the stricken creature. One can picture their wonder in discovering the bird to be a woman! This was before the flying men had been discovered!

So he had nursed the winged girl back to health. Her wing had been broken in a storm that had carried her to his island. She allowed him to model her in clay, and it is needless to say that the sculptor fell in love with his model. Her name was Mary. She told him the stirring history of her people. They were in love, but Mary longed for her jungle home. She tried to prevail upon the artist to accompany her home. She begged that he come so he might model her people—to teach them his art. But Fargo refused. He had a small son and daughter though his wife was dead, and he had no wish to desert the world.

The wing healed and the girl continued to plead, but the man was adamantine. The wing was strong again, and the girl took little flights to strengthen it. Fargo watched each flight fearful that the girl would fly away, for he loved her, more than he loved his wife. He won in his pleading to keep her with him another month and again another month. He longed to clip the wings of his love, but he was too much a man for that.

He had a large fortune in trust for his children and they were well cared for by his sister. He almost made the decision to go, but at the end he was still as uncertain. The day before, Mary declared she must return to her people and that night the two fell asleep after many hours of pleading for each to do his will. That is Fargo fell asleep, but not Mary. She must return to Mentor and the man must go with her. She slipped the clay model of herself in her bosom. There were to be no tale-tell marks left.

So Fargo awoke with the dawn to find himself bound hand and foot more than a thousand feet above a watery expanse. With night they dropped on a deserted sandy beach. She fed him fruit and gave him water, but would not remove his bonds. The next night found them at Mentor.

Thus had Eugene Fargo come to the jungles, and he confessed to me that he was happy that Mary had taken the matter into her hands! He missed his children, but he was happier than he had ever been before and was doing better work. He had a school for sculptoring started, in which he taught those who had a talent. He took me to his workshop that he had fitted out in the lower branches of several trees.

Life In Mentor

THE floor was of strong branches interwoven, the leaves his walls, and the sun coming through the tree tops gave him his light. He climbed to his shop by means of a rope unless his pupils or Mary were kind enough to carry him up there. It was a pretty sight of a morning to see half a dozen or so of the winged youth seated in a semi-circle around their teacher working with clay near the city. The Patriarch had ordered some clay. He had discovered a bed of fine workable marble to be imported for him to work with, although it would be gruelling work for six winged men to bring the blocks of stone from afar in the dead of night. At present he was working on a full length figure of the Patriarch.

There were also other schools for art. The Mentorites were an artistic people as the paintings on their walls prove. And the Patriarch seemed

anxious to cultivate the Fine Arts among his people, for he well knew that a civilization has its foundations in Art.

From time to time I had been seeing Miss Lois either in the clearings under the trees or in the lounge rooms below. I knew from the very first that I was in love with this beautiful angelic creature, but I did not know if she harbored a like feeling for me. Kindly, she answered all my questions, told me of her work, advised me and helped me in whatever way she could. And several times she was good enough to take me for short flights above the trees. Once she suggested a tour of Mentor for me; and, as she was going with Doctor Morris in a round of inspection of the hospital, I was invited to accompany them.

Morris was borne aloft by a winged youth and another was provided for me, and the five of us went from city to city. Life in the five other settlements was much the same as in Number One City. Each were designated by its number.

The Mentorite is a fine flyer. Their wings are very powerful—as from childhood they are taught to develop them. And part of their training is to carry heavy burdens as they fly, the weight of the burden increasing with their years so that a hundred pound weight is nothing for them to carry a distance of from five hundred to a thousand miles in a long sustained flight!

Endurance contests were encouraged. The longest sustained flight record among them is for one hundred and fifty hours! On many a fine day it is not an uncommon sight to see a tiny dot high in the sky that looks no more than a speck of dust and know that it is either a man or woman out to break a record. They carry enough food and water to last them for a long time. Wearing heavier clothing they climb to tremendous heights, as high as it is possible for human beings to climb and yet survive.

One morning, Lois asked if I should care to witness the morning drill. I quickly assented. I knew now how to place my weight in a position that is best for my bearer and, as easily as if I were a child, the broad wings of Lois bore me up through one of the passages to the air above.

Early morning over the jungle is pleasant indeed. The air is fresh and keen, and the warm odor of growing things fills the air. Lois picked out a comfortable crotch in a big jungle giant from where I could watch the maneuvres as from a ring-side seat. Thousands of the winged people were already abroad, and many more were coming up through the trees. I would have been glad to climb with Lois to the sun that morning, but with a smile and a wave she left me in my seat as she hurried to join her fellows.

There were other spectators beside myself Later Miss Lois showed me that many of the trees were hung with giant vines and also ropes that had been camouflaged in such a manner as to look like the living vines. By this means the Earth-bound might climb to the lowest branches of the trees and from there he would find steps leading upward, small ladders of interwoven branches. After discovering that, I spent a great deal of my time in the trees.

The Drill

NEAR me today was seated a captive, like myself, who was familiar with all the features of the drill and pointed out to me the more interesting exercises. He was a youth scarcely eighteen, as pretty as a girl. He had come to Mentor when he was but twelve years old.

He pointed out the eight sentinels stationed at the eight points of the compass. They had taken their places several thousand feet up in the sky. They were the outlooks and would warn the companies below of the approach of aircraft. Once in a while we see an aeroplane far off in the sky. Usually, however, we were warned of its arrival long before it could be seen and under pain of death we were forced to hide ourselves in the trees. One could only recall the fate of the woman we had seen from the plane on the day we had come looking for Mentor to be sure not to desire a like fate.

The winged men and women were now gathering into squads and companies, and at the sound of a sharp whistle a line was formed in the air as neatly as an infantry could on the ground—as battalion after battalion took its place. I marveled at the dexterity with which the flying people mastered the air. It was a marvelous sight when all the companies had fallen into place and, with wings outstretched, maintained themselves in one position as easily as a man stands upright on his feet.

How brilliant that scene was in the bright tropic sunlight, with the variegated shining wings of every hue and color known to the birds. I noted that each company was made up of those whose wings were of one color. The first company were all white winged, the second black, the third golden, the fourth red, the fifth green, the sixth blue and so on through the natural colors and on into those whose wings were of various color combinations. Last and most beautiful were those of the rainbowed wings, and among them was Miss Lois who ranked a captain!

At the sound of a second whistle all was very still, and I saw that the Patriarch had arrived. He took his place in front of the first company. He was wearing a costume of snowy white and was a striking creature with his great black wings.

He now blew his whistle and the companies came to rigid attention, their bodies stiffened, their wings quivering under the tension. Immediately two blasts of the whistle shrilled out and with it came a roar that was almost deafening. Thirty thousand pairs of wings were beating the air as the flyers arose, company after company, straight toward the heavens.

Never was a company of soldiers better trained. Every body was as straight and as motionless as a ramrod; each man kept his distance from his companion as if the distance had been measured by a yardstick. Rising, they looked as if they would never halt again; until finally the whistle sounded. Immediately the battalions broke order, half their number flying rapidly in one direction, the other the opposite. A thousand yards apart they came to a halt and we could see that they had separated according to the colors of their wings, the solid-hued wings on one side, the variegated upon the other.

No matter in what direction the planes turned, the winged men were upon them and plane after plane began to crash, many of them going up in flames. In one concerted rush, 50,000 flying men and women took to the air.

Again the whistle, and the two parties were galvanized into action. With a great roar of their wings and with equal speed the two contingents headed directly for each other so that it appeared as if there was to be a head-on collision. They met and now we were treated to a sight that was intensely stirring, an aerial sham-battle. Their only weapon was a small blunt stick that was brought from a pocket. Its tip was chalked with red. The trick appeared to be in parrying with one's opponent until one or the other was marked by the red stick. The stricken one immediately dropped out of the battle. And such flying there was, such banking, such whirling, such spins, such spirals, such flying as never before witnessed.

The battle lasted no more than ten minutes, one after another of the vanquished falling out until the trees were literally covered with them as they watched for the end. A roar went up when the Patriarch's snowy bosom was marked with red! No more than two thousand were left in the air when the whistle shrilled again. The majority of those remaining in the air had variegated wings and only a few hundred of the solid colored remained aloft. The victory was given to the former.

At times, my informant told me that there were battles between male and female and although the male predominated to a great degree the female contingents often won.

Now the companies again took their places in the air, and there followed a half hour of drill with the huge body moving as one man, turning, twisting, dropping, soaring, charging and retreating. I saw again the formation of the circle as each man and woman scattered at a command and flew outward and upward until a tremendous circle was formed, a circle of five ranks rising higher and higher.

When the drill was done Miss Lois came for me and carried me to the ground again. She was scarcely winded from the trial. She left me as she hurried to her duties in the hospital.

CHAPTER EIGHT

Jim Takes A Mate

DAYS went by and yet I received no orders from the Patriarch. The fact that I was allowed to remain idle pointed to the conclusion that he was still considering my application to organize a news sheet; but I could only wonder at the Patriarch's procrastination. I could see no reason for him to hesitate.

By now I knew all the ins and outs of the city. Twice I made a half hearted attempt to escape knowing beforehand the futility of such a course, and I was thwarted each time. I spent a great deal of time with Wormley who was still waiting for his leg to heal.

And one day a summons came. I had been called before the Patriarch! I was all a-quiver, but the cold visage of the black-winged man chilled me. "Jim Kennedy," said he, "I have learned that twice you have made an attempt to leave bounds! Your reason, please!"

I shrugged my shoulders. "I was merely seeking proof, sire," I answered as laconically as I could. And I saw that my answer was an almost imperceptible smile.

"The second charge against you . . is that you have been with us . . . five weeks . . . yet you have not performed the first duty that is expected of you! And that is to take to yourself a mate."

Again I shrugged my shoulders. "The women of Mentor are all beautiful," I said lamely, thinking instead of the beauty of Miss Lois.

"All the more reason you should have chosen. Mentor has a purpose in the world, and it is the duty of every man and woman within her gates to do what he or she can to further our work, and he who shirks that duty is of no use to us! Our way of dealing with such as you . . . is simple. Since you do not choose for yourself, we choose for you!"

He clapped his hands shortly. I was hot under the collar and I was ready to tell him what I thought of him and his nation when the door opened and in came Miss Lois!

"We do not beat around the bush in Mentor," went on the dictator. "We have no silly conventions, nor prattle by which we try to disguise our purpose here. We know to build a great nation we must have a foundation on which to build, and our foundation necessarily is strength. That strength is our young!"

"This young woman," he went on, "is one of our finest specimens of girlhood. She is of a direct line of eight generations of the *alated*, and because of the strength of her blood you are commanded to take her to mate in hope that you can bring forth a child that is worthy of Mentor! Let me hear differently and things will go hard with you."

I listened wordlessly to the harangue. The man's cold-blooded eugenic creed disgusted me and I felt that I should stand up for my rights as a man and tell him what I thought of him and his noxious doctrine, only the presence of the girl standing quietly by, held me back.

Seething within I demanded, "Has Miss Lois nothing to say to this?"

The man must have read my feelings in my face and for the first time I saw a true smile on his lips. "Lois has already announced the fact that she is quite willing to accept you, Jim Kennedy. In that you are to be complimented."

I don't know what emotion swept me then. I was suddenly elated and at the same time greatly embarassed. I stole a glance at the girl's face and she was not looking at me nor appeared embarrassed in any way. Such procedure was the rule in Mentor.

Concluding that the interview was over I waited only for the word of dismissal. Yet the Patriarch was not through.

"Today," he stated, "a shipment from Cuzco has arrived. In Section Three of the third level you will find all the necessary equipment for the work you have asked to carry out. You are permitted to choose what youths you will need in your project. We shall expect weekly reports from you and I shall require that you confer with me on the policy which I wish you to pursue. That is all now. You may retire!"

So that was the way the Patriarch did things. My heart suddenly grew warm. I took several steps forward and stretched out my hand. Patriarch Mentor took it and we clasped hands heartily. It was the beginning of our friendship!

Outside his chambers I faced Miss Lois who had accompanied me. I did not know just what to say. She looked at me and smiled gently. "Our methods are strange to you, Jim Kennedy? I know from what Howard Wormley tells me that you do not go about such matters on the Outside as we do here."

I admitted as much, but I hurried on to tell her that my feelings had always been directed to her ever since I had first seen her; that I loved her and my reticence was due only to the fact that I feared she did not feel the same toward me.

And Becomes Acquainted With Her

SHE blushed prettily and then declared that she had loved me the minute they had brought my mangled body to her. She went on to tell me of hours she spent at my bedside when it was thought I would die, and the tears she had shed! Wormley, she said, had known all along! You may be sure that I made up my mind to tell him just what I thought of him for not having warned me.

"And now," said she in a tone that was strangely matter-of-fact for the occasion, "I suppose you are anxious to see the machineries they have brought for you?"

She led me through the corridors down to the lower level and into the rooms where my newspaper was to take life. The delight I had expected to feel when I should first realize I had a printing press under my hand was not there. Instead I wanted to runaway somewhere with this Earthly angel, hold her in my arms and tell her how much I adored her.

Instead I pretended enthusiasm in the presses. I could never rival the great New York dailies, but I would be able to work out a fairly good weekly paper on the shiny new machinery that awaited me. Everything was there to the smallest detail, even the conventional mats and great rolls of paper ready for use. I had to admit that Patriarch Mentor did things in a big way.

Three fairly large chambers had been set aside for me and with the aid of six husky fellows we placed everything to my satisfaction, the various presses, the heavy rollers, and the bundle machine. By trade I am only a reporter, but I had learned my profession in the hard grind of a country newspaper and knew printing from pi to em! I arranged a desk of rough wood under a bright light, placed on it one of the three brand new typewriters, a stack of paper, pencils and what-not in preparation of the work to come.

The luncheon bell rang ere we were quite finished placing everything. Lois had returned to her own work after directing me to the offices, but I found her in the common lounge awaiting me. Heretofore she had lived and eaten her meals in the hospital quarters, but I discovered that she had had her place changed so that henceforth we should be together during the dining hours.

She was so sweet and unspoiled, so natural in what seemed to me such an unnatural position, that her very attitude made it easier for me. Still I did not have any appetite for the food put before me and I was glad when the meal ended and we would have an hour or so in which to become acquainted, for I realized that I knew very little about this young lady.

We took a settee in the lounge and we talked throughout the hour. Lois wanted to know more about the Outside, what was marriage, how were courtships conducted as well as a great many other things. She liked the thought of a couple setting up house-keeping together, but she had nothing to say against Mentorian methods. When the gong announced the end of the hour she shyly agreed to meet me after the working period.

Perhaps Patriarch Mentor was laughing at me knowing full well how difficult it was for a man to serve two masters at once, ambition and love! I surely accomplished very little in the hours that followed. I sat there at my desk contemplating the stack of paper—for first off I had planned to lay out the set-up for the front-sheet of my paper. But as far as I went was to write at the top the name that it was to be known by, the *Aerial*.

At the ringing of the gong I found Lois at the spot she had designated for our tryst and she confided that she had something to show me. I followed her along a path I had never been on before, and after walking rapidly we came to halt under a giant tree. She pointed out that I was to follow her up the rope that hung from the lowest branch. She went up quickly and easily, I more slowly.

Up we climbed the little ladders that were barely strong enough for my weight, but up which the girl went as lightly as a bit of thistle. Scarcely ten feet below the roof of the jungle we halted and she showed me a pretty little nook that had been constructed of interwoven branches. A cushion of feathers covered the rough floor. And, only a few slender branches overhead, hid the platform from above.

She blushed as she confessed, "When I was a child I built this little hide-out myself. Here, I now come often when I feel I wish to be alone. Could we not call this our . . . house . . . our own . . . Jim Kennedy?"

Ah, the sweetness of her and the pity, for though she was of a people who had lived a communal life for almost five centuries the desire for something of her own was still in her and had spoken to her. There for the first time I took her in my arms and kissed her. I can say no more of the love that welled in me for her, it is hard to write of it, but I loved her then as I shall always love her, I, the hard-boiled reporter fellow!

And Goes to Work

WE did not stay long in our little love nest as I thought of it thereafter, for our rest period was of but an hour's duration before the drill—but we did come back again and again, and there were only the bright-plumed birds and the beady-eyed monkeys to tell of those hours. Often we took flights from there up into the blue of the skies or into the wonder of the silvery nights. The first strangeness of being carried in her arms wore off and I learned by proxy what it meant to fly . . . to really fly as the birds fly without the deadening roar of motors or the breath of burning oil.

So life in Mentor started for me with a bang. Never again did I think of escaping. Poor Sims can wait for his story. The next weeks overflowed and seemed all too short. I was peopling my office

with printers, clerks and printer's devils. I was training reporters and columnists. Lottie Walker, a captive woman, became my women's correspondent. She had been a reporter on a Chicago paper and she became invaluable to me. Another American girl, Wanda Heath, became a reporter. Eugene Fargo agreed to write an article each week about art. I found a music critic and a sports writer!

I had an interview with the Patriarch and he outlined the policy of the *Aerial*, the name of which he approved. And two weeks after the arrival of the presses we came out with our first edition! I laughed when I thought of what the *News* would have said of it. It was crude; my printers were none too efficient and my staff needed much training, but at worst it was not so bad and gave promise of improvement. It had only one double sheet. all news, of course, for what had we of Mentor to advertise? The Patriarch was quite enthusiastic about it and laughed heartily over a caricature of himself that had been drawn by an art student. I realized that I must introduce one or two chaps to the art of comic-strips.

But wait . . . . I am not writing this narrative to tell of my own exploits and triumphs, there were other things that were taking place in Mentor.

From time to time planes had been sighted hovering around and about Mentor. Several planes fell to Mentor's toils and the pilots, who survived the fall to the great sheet of metal that was reared up over the jungle to receive them, were added to the swelling population. They took their places as we all had done, and none seemed irked by their enforced incarceration. As time wore on some of the bolder spirits did make attempts to escape, but they never got far away, nor were they punished for their attempts unless they proved too persistent. What happened to them, when they disappeared from our ranks, none of us knew.

By means of our radio we knew that those of the Outside were anxious for revenge upon the men with wings. Several flying men had been captured when they became too daring in the matter of abductions. Of course they had been given the third degree and South Americans were not adverse to torturing them in an attempt to learn from whence they had come, their number and their ultimate intentions. But to date not a single captured Mentorite had divulged the secret of his race.

We knew, however, that the Americans were planning to descend upon the jungle in the area where it was conjectured the *alated* had their base, and to wipe it from the map. The tropical rains came and we had that interim in which to prepare—had their been any preparations to be made. But I learned Mentor was already prepared.

CHAPTER NINE

Ready For Battle

THE six weeks of rain that followed was not as unpleasant a time to us in the underground cities as it might be expected. However, the people were rather cooped up during those long hours when the heavens poured incessantly down upon the jungles. Still the cities were dry and many happy hours were spent in the lounges. Everyone did his best to entertain his fellow so that the hours did not seem long.

There were plays enacted in the big assembly rooms of the city, indoor games played. Musicians brought out their instruments to entertain the crowds and of course we had the radio.

On the days when the sun shone, there was a general exodus as everyone hurried into its warmth and wings were spread again.

In the meantime I was making great progress with my paper, discovering new talent, widening my range. I now had correspondents in each of the cities, and we had our own telephone switchboard to receive the incoming news. We had three comic strips, and we ran a column of jokes as well as a weekly story written by one of our coming authors. Patriarch Mentor complimented me on the work we were doing, for it could be seen that the newspaper was bringing the scattered settlements closer together than ever.

Wormley had since been discharged from the hospital and during those weeks while it rained he made great progress with the Mentorite women. He had gotten his wish and had been detailed to work at one of the Aero-electrovoid Bases of which there were six stationed at distant points around Mentor. These tremendous machines that brought down the planes worked on a very simple plan. By mean of great generators the dust was ionized and the air was sucked out of the locality above the cities. So powerful were they that any object in the way would immediately be swung around and around and finally sucked into the maw of the machine!

What Wormley had suggested that day in the hospital, then, was astonishingly correct. Over the machine was erected a great heavy plate of sheet metal of large proportions. This could be raised in the time of need above the trees to catch the falling plane and to protect the machine beneath. The metal sheet was then lowered and tilted so that the wrecked plane would slide off into a pit dug below.

The whole machine itself was built in a pit below the ground and when not in action was completely covered and the area over and around it made to appear as if it had never been touched by human foot.

Wormley's work was to do with the mechanics of the engine, repairing it keeping it in readiness for what was to come. I could not understand his desire to be part of such destruction, but human nature is a funny thing after all, and perhaps he saw humour in nursing the infernal thing. I knew, too, he was studying its construction possibly with the hope that some day he might escape and give it to the world.

From a word the Patriarch dropped one day I imagined that he understood Wormley's intention, and he himself enjoyed the joke, at the same time keeping a heavy guard on the "captive". Wormley did attempt to make an escape one day, months later, and he paid for it with his life. That caused me a good deal of pain.

At last the day did arrive when our friends on the Outside made an attempt to conquer the marauding winged men. That day the twenty-fifth of July will go down into history to be remembered many years hence. And it was the events of that day that forced the world to respect the power of Mentor!

We had already been appraised of the attack that was to be made and consequently waited anxiously for the outcome. How utterly were those fleets of two hundred and fifty planes beaten! How like toys they fell into the power of the Patriarch.

Although we were forewarned no precautions were taken by the Mentorites. Until the hour had almost struck, the business of living went about as ever before. Only when the gong struck eleven o'clock in the morning, did it appear as if anything was afoot. Orders were given for every able-bodied winged man and women to gather above the jungle without a moment's delay. No one else was to leave the cities on pain of death! An Earthbound discovered above the ground would die on the spot.

For us all work was suspended and we were ordered to gather in the lounges and stay there. How inglorious I felt herded in a room while Lois, my wife, went to join the legions. I even envied Wormley then, in his work beside the Aero-electrovoid. I, as editor-in-chief of the *Aerial* should have at least been an eye-witness of that conflict. Instead I was forced to hear the results of the day by word of mouth. John, one of my reporters, who took his place in the ranks had the extreme pleasure of writing the dramatic story and all I could do was to edit it.

The Battle

WORD had come to us that the two hundred and fifty planes had set out from Cuzco and could be expected around noon. Half an hour before the hour we heard the roar of the motors as they drew near. Spread out in a giant circle the one hundred and eighty thousand or so winged warriors waiting quietly in the trees hidden from sight. Each officer of the companies was provided with a radio receiving set small enough to be carried on his belt. Orders came from headquarters in Mentor where the Patriarch waited, stationed in the trees. The six electrovoid machines were already warming up, but had not yet begun their work of sucking down the upper atmosphere over the area of Mentor. Let the enemy drop all the bombs he wished, but not one of them would ever strike their goal, their explosions would only wreck havoc in the wild unpopulated jungles becoming boomerangs to the very man who had tossed them!

Down in Number One city we knew when the planes arrived for they immediately took their station directly over our city. On arriving over the spot, the planes had gathered together about five thousand feet above the trees, then at a command from their commander began to spread into a wide circle. For a short time they stayed poised over the city, awaiting no doubt some sort of development from the jungle, but it lay quietly sleeping in the hot noon sun.

Then several scout ships dropped low and came zooming over the trees. They could see nothing that was of interest, and we in the lounge rooms heard their reports as they radioed to their commandant. Evidently the Outside was unaware of the fact that we had radio. Our battalions of course used a code.

More planes began dropping lower and it could be seen that they were getting into a formation so that they might throw bombs down upon the sea of trees. Now for the first time Mentor acted. The machines began their work, and the enemy were not aware until two of the scout planes commenced acting strangely and their pilots broadcast wildly what was happening.

Immediately the battalions above began to draw aside, but no matter in what direction they turned the danger was upon them, and one after another of the planes began to fall out of control! The six machines had complete control of the air for sixty miles around and there was no telling how high their power could be felt, for naturally as they drew the upper air in from one area there was still more to fill its place.

The air overhead was losing its light as the electrically-charged ionized-dust atmosphere could not conduct the light of the sun as directly as heretofore. And plane after plane was beginning to crash on the metal plates. Some of the planes were trying to discharge their supply of bombs, but they went the same way as the planes and consequently many of the planes went up into flames ere they struck the barrier.

In less than ten minutes after the beginning of the fight almost a hundred planes had succumbed, and those who had warily risen higher and higher hovered above the earth uncertain where to turn. They could be seen turning and moving out in all directions as they attempted to find an area that was free from menace. A number did reach the outskirts of that great "hole" only to be caught in the whirlpools formed in the outer spaces by the terrific suction that was exerted. And they too fell.

Seeing what had happened to their fellows the hundred or so planes that were left, now took to circling about within the sixty mile circle fearful of going lower and fearful of being caught by the whirlpools. It was then that Patriarch Mentor gave command to the waiting companies outside the circle.

In one concerted rush fifty thousand flying men and women took to the air rising straight up to the heavens wherein the remaining "enemy" were circling, still uncertain. The planes saw them coming. Here at last was a tangible enemy to fight. They gathered into formation and awaited the oncoming flying men.

I have mentioned earlier that I knew of no other destructive weapon possessed by the Mentorites outside of the Machines, but I discovered they were not unprepared to do battle. They knew electricity perhaps better than the world. We have had scientists who have made for themselves thunderbolts, but as yet no use had ever been discovered for them. The Mentorites did have a use for them.

Each man and woman carried a small stick, harmless enough looking, but harmless it was not; for each "stick" had within its barrel six discharges, discharges of electricity that could travel a thousand feet, and with each discharge of a thunderbolt a plane fell. That had been the reason for the practice battles with red marked wands!

Ten planes went down under the spitting of the thunderbolts before the two parties drew together, but now the aeroplanes were in the midst of the flyers, and the machine guns were being turned upon the flying men. A few of them fell, but their ranks were scarcely touched, for the pilots busily

trying to keep out of the way of the flashes from the "thunder sticks" were not giving their gunners a very good chance to direct their fire and those who fell were shot down only by stray bullets.

They were always right on the tail of the machines and on that day they proved how much more efficient were living wings to those of cloth and steel. Less than fifty planes now remained as they fell one after another in smoke and fire, but they had learned their lesson and were climbing higher and higher so that the flying creatures were below them. Thunderbolts continued to flash and several more planes went into tail spins.

A number of the flying men fell because by this time the gunners could take more careful aim upon the whirling twisting bodies, and by holding their position high above the earth in the full glare of the sun they were able to shoot the winged creatures down one by one as they darted hither and thither attempting to shoot their bolts into the vital parts of the machines.

Yet as each man fell there was another to take his place. The airplane force had no reinforcements, they had shot their bow and by now their fuel must have been very low. And they were being driven back beyond the range of Mentor. More of the flying creatures arose from the trees. The enemy was forced to acknowledge defeat. Below were fresher troops taking formation in readiness for a new attack.

Dropping a few remaining bombs; and with as much dignity as they could muster, in close formation the thirty-odd air planes moved west. We learned later that several dozens were forced down in the jungles because of the lack of fuel.

So ended the First Battle of Mentor!

Now the work of the hospital corps began. A little less than a hundred of our people had fallen, and only thirty-five of them were fatally wounded, the others having suffered only from flesh wounds. A few had been killed outright as they fell atop the metal sheets above the machines.

Most of the enemy pilots and gunners had died, but some still lived and these were brought in to be cared for. The dead were gathered together and cremated. The pits around the machines were piled high with the wreckage of the two hundred planes. Much of the jungle round about had been completely demolished, but the cities of Mentor had not been touched.

We scarcely slept that night. There was moaning and sobbing over the deaths of our people. I and my staff worked the night through to bring out an extra, and with early morning the couriers flew with the papers to the other settlements. There was a great deal of rejoicing in the settlements, for it had been proven that Mentor could overcome her enemies.

However, we did not know what the result would have been if it were not for the Machines. Still, we were to learn that at a later period. The world knows now that the Mentorites are invincible, and they have learned to respect the nation.

CHAPTER TEN

Life Continues in Mentor

SCOUTS were now stationed as look-outs day and night, for we had fear of a second attack, although our spies Outside reported that the enemy had not yet rallied from their ignominious defeat. Still public opinion ran high, and North America was demanding that Mentor be wiped off the map. It was now estimated that we were a million strong, and they had no way of telling just how wide an area we covered. The returning planes had reported the locations of the machines, and it was evident that the next attack would be made upon them.

Plans were being made to establish bases in the jungle lands, for it had been proven that the air planes needed a port closer to the scene of the battle. America and Canada were both mobilizing troops, and airplanes were being hastily built.

And while all these preparations were being made on the Outside, Mentor continued on with her business of living. Our new recruits were being initiated into our manner of living, babies were being born, settlements enlarged.

I made it a point to visit the fifty-odd aviators who had survived the wrecking of their planes at the Detention Camp. They all expressed their admiration for their captors, and were intensely interested in the progress of the nation. On being freed from the Camp they quickly accepted their new life, and many of them appeared highly contented with their lot and expressed the hope that we should not be attacked again.

One, Harry Mellor, a Canadian, approached the Patriarch with the plan for the construction of a number of bombing planes to combat the enemy. The Patriarch did not approve the notion. He admitted that his ancestors had not conceived the thought that man should ever rise in the air in mechanical devices, but he saw no reason for their offspring to take to machinery. He meant to prove to the world that wings were an improvement over the planes.

The task of bringing new women to Mentor persisted, but the abductors were more cautious and worked only by night. Too, they had to travel further and further for their prey. There were no more spectacular aerial kidnappings or hotel scares. Flying for hundreds of miles, sometimes as far as the border states of the United States, the marauders abided their time alighting as a rule near some outlying post where from previous observation they had discovered the woman of their choice. There they would await her coming. Swooping suddenly down upon her, burying her cries in a muffler they bore off with her not halting till they reached home.

The world was more uproarious than ever in their demands that the criminals be punished. Germany were turning out Zeppelins and planes that were being rushed across the Atlantic. England was also aroused, and even France and Italy were incensed although the Mentorites did not molest their peoples.

In the settlements of the winged people, however, war appeared forgotten. The Arts were being pursued avidly by the youths of the nation.

A writing club had been organized and gathered together weekly to discuss their writings and methods. New plays were being written and acted. I often printed the stories of these authors. Eugene Moore was making great progress with his Art school. He had been driven to take rooms in the city because of the growth of the school and some fine pieces of work were turned out. There were many other schools of endeavor besides those of Art—mechanics, electrical and architectural, and they were all making progress.

I now added a sporting page to my paper. It aroused as much attention as the sport's section in a New York daily. The endurance tests for flyers continued. The record for staying aloft in one spot above the city was for fifty-two hours, forty-three minutes and ten seconds for male, and forty-nine hours, twenty-seven minutes and fifty-two seconds for female. This was apart from the long sustained flights.

Weekly contests were held for different types of flying, the winner receiving a prize as well as the high regard of his race. There were contests for children in which they were classed according to age. These races did much in teaching the most valuable lessons of endurance.

We did not confine ourselves to flying contests alone. There were the ground games for the flying people as well as the Earthbound, a type of base-ball, basket ball and marbles in which the adults as well as the children took great pleasure.

A New Mentorian

WE still kept in touch with the Outer world by radio, and I printed all the news that came over it. Several bases were being built in various localities. One was on a plateau of the Andes on the Peruvian border, another in Bolivia, a third on the Amazon River. Our scouts flying by night watched the progress that was being made. Infantry was being brought into the jungles and roads constructed. Artillery was also being brought in at the cost of tremendous labor, and the sky was becoming overrun by airplanes and Zeppelins.

Some of us in Mentor wondered that the Patriarch did nothing; why he was content to allow the enemy to build its big army of offense. Most of the Mentorites, however, were as phlegmatic as their ruler, and to our protest that something should be done, shrugged their shoulders and averred that the matter rested in the Patriarch's hands.

I went so far as to approach him and ask what this inaction was going to mean. We were now intimate enough so that my audacity did not bring a reprimand.

"Why?" asked the Patriarch, "should we show our hand before the time is ready, Jim Kennedy? You have an expression that says, 'Give a man enough rope and he'll hang himself!" We will instead give them the rope and then do the hanging . . . Bridges are to be crossed only when we come to them." He smiled wryly. "I should suggest," he added, "that you write an editorial on that."

The rains came again before our enemy was ready to strike, and it was during that time that Jimmy Junior, as Lois insisted on naming him, was born. The day he arrived almost became one of mourning for me, for Lois, the dear little mother, almost died in giving him life. But Doctor Morris saved her as he had saved many mothers, and we were both to look with joy and pride on the most perfect specimen of *alate* babyhood.

The nurses were profuse in their admiration of him. They were not cooing over his appearance, for he was like all babies, and even I, the proud father, could not say that the little red creature was different. It was his wings that held their attention, for never had there been born a babe with such wings, wings that already were longer than the fat little youngster himself, and gave promise of a growth that had never been seen before. The soft fuzz thas covered them was a downy yellow, although in the sun's glow we could detect the faintest tint of what were later to be white and blue.

On the third day of his birth the Patriarch condescended to pay him a visit and congratulated Lois on the fine baby she had given to Mentor. A month later he was fêted by all of Mentor and it was easy to see that Jimmy Jr. was going to be the pride of the nation.

One might stop to question the thoughts of the father as he realizes that he had in truth fathered a monstrosity—for such the baby would be considered in 'unwinged' circles. Yet I was so happy in the presence of my little family, in my work, in my new life that such an idea never ocurred to me. In fact, I was so wholly of Mentor that it was seldom or ever that I thought in the terms of the world. It was not until later years when I presented my son to my family in the States that I felt any discomfiture in his strange appearance. However, by that time he was a handsome child with a body that matched the splendor of his giant wings.

Now to return to the Mentorian situation. The rains ceased, and airplanes and fighting men were coming into the jungle in hordes. Word came to us from our emissaries that within two weeks time, on the twelfth of the month, the day had been set for the concerted attack on Mentor.

It was not until on the eve of the twelfth that the Patriarch struck, and so forceful was the blow he gave the world, that they had reason to know that they were reckoning with a power that could not be crushed.

At noon the order went out that the flying men were to gather above the trees immediately after the evening meal, and they were to carry six thunderbolt wands apiece. These were distributed among them before they took to the air. Mentor was on its toes. There was to be action at last.

The next order came for the Earthbound. They were to be separated into companies, and by a quick march they were hurried to the boundaries of Mentor, in every direction.

A small number of Earthbound were to stay within the cities, to care for the children, to guard the Captives, for no chance was to be allowed of any of them escaping. A detail of winged women were also left to guard each settlement.

A Decisive Victory

LOIS was not called out, for mothers of babes up to six months old were not required for service. Again I was forced to stay behind, and hear the reports of what took place from other's lips.

We learned that the flying men made descent upon the three camps of the enemy and with their thunderbolts entirely demolished all that had been accomplished in the last months. Thousands of airplanes were demolished that night, the artillery was completely wrecked and there were thousands left dead and dying.

What airplanes managed to take to the air were wrecked and went up in smoke before they had so much as fired a single shot. Zeppelins exploded and added terror to the awful carnage.

The infantry that had already been making its way through the jungles under the cover of night were met by the Earthbound and entirely routed, and many of them, captured, helped to swell the population of Mentor. However, several thousand Earthbound died in those battles, for they did not have the advantage of wings or of machine guns. The infantry made a name for themselves that night, even, though in the end they were forced to retreat as the thunderbolts entirely demoralized them.

With the morning all fight was driven out of the invaders, and once again Mentor was declared victor. The world cried out in chagrin.

For a week following, we of Mentor were busy with our wounded. All day and night our people worked in the jungles to save the living and to bury the dead. It was left for Mother Nature to heal the raw wounds that had been inflicted on her forests.

The world was now in turmoil. The newspapers came out with editorials against the winged people, for they saw a new scourge sweeping the planet. Even Asia was touched by it. Individuals in the southern part of the United States commenced arming themselves against the inroads of the abductors and proposals were made for a fleet of airships that should bombard the entire jungle area so that the menace might be wiped off the face of the earth. Indeed several private parties sent out two long cigar-shaped Zeppelins in an effort to do a little warring of their own. They no sooner appeared in the sky before they were attacked by a horde of the *alated* and the ships went up in smoke as soon as the thunderbolts reached their vital parts.

And Mentor went on about its business quietly and efficiently. Its area was growing as new settlements were continually being filled. The number of captives now ran into thousands and the work of rearing the young continued. Two years went by and nothing more had been done, for now Mentor was alert and ready, and every attempt that was made to establish bases in the jungle was thwarted. Every plane that appeared in the skies was immediately attacked, and no matter how large a fleet might come the flying men always conquered, having grown surprisingly efficient in bringing the machines to earth in a minimum of time with scarcely any loss to themselves.

The ranks of the winged were growing, for the youth of sixteen were being enlisted, and now the count of able-bodied *alated* was well over two hundred thousand

The fact that the Mentorites had their home in the jungle, of course, had much to do with their continued success. In any other part of the globe all might not have gone so well with them, but here they had control of an area of many hundreds of square miles about, an area that was a natural protection since the enemy had difficulty in securing any footing. The Indians were also our friends, for they saw in this new race a savior who would give them their own again. In fact, large tribes of them were drawing close to Mentor and offering themselves to the Mentorites. They did much in keeping us informed of all that the enemy did within the jungles.

Word next came that an attempt was going to be made on Mentor with poisonous gases, but again ere they could begin this new attack the Mentorites were upon them, and every city that had received a supply of gases was attacked at night, and the supply was bombarded so that the cities themselves felt the attack, and cried out against the governments to stop bringing any more of the bombs into the strongholds.

A Startling Proposal

AT LAST the day came when Mentor sent out orders to his emissaries to begin negotiations with the World Court for recognition of the Nation of Mentor. He demanded that all hostilities cease, that the new race be accepted in fellowship. And, he went on to advise, that if his demands were not accepted Mentor would hereafter take the offensive and the World would regret its refusal of Mentor!

To me it appeared a very audacious step for a people of less that a million to take. Yet they had proved time and time again their strength, and I knew that Mentor meant what she said. In our laboratories our scientists had discovered a gas that was more potent than even *cacodyl isocyanide* the gas that had been discovered some fifteen years earlier and which destroyed any life it touched.

Another year went by, and in that time the World Court had come to no decision, for the world still clamored for our destruction. Again attempts were made upon us with plane and gases, but again Mentor thwarted every move. And to prove that she had meant what she had said a small contingent of winged men clothed entirely in a sheath of protection headed for Cuzco. They went armed with gas bombs, and the morning found the city black and scarred with not a living creature within its walls!

A cry of distress went up from South America and this time the World Court acquiesced. Two representatives went out from Mentor with a large guard armed with thunderbolts and bombs. They landed in Washington D. C. and with an armed guard proceeded to the Capital. There were demonstrations in the city as the Americans fought to reach the enemy and tear them limb from limb, but the United States had offered them protection so that they might confer with the President.

The result of that conference was that the representatives embarked on an air-liner for Europe. Where they flew on to Geneva, Switzerland, where the World Court was then in session.

Brazilian representatives were there also and they fought against the usurping of such a large area of their nation by the Mentorites. Their protest was overruled as the other nations were glad that the winged people were willing to stay within bounds and not move to some other part of the globe. However, boundaries were laid, and the Mentorite representative signed an agreement that Mentor would not overreach her borders.

It took almost five years for the world to forget her animosity toward Mentor, and during that time flying people were not welcome in any of the cities of the world. But gradually the antagonism wore off, and it was not an uncommon sight to see the winged people in the cities of Quito, Rio de Janeiro, Buenos Aires as well as in American and European cities.

And Mentor was now coming out into the sunlight. The giants of the jungle were being torn down, and the cities were rising above ground. Fine buildings were reared and the nation was coming into her own. She had been allotted an area of one hundred miles wide and two hundred long. Her plantations continued to feed her, and her mines were working at full tilt.

Tourists were now coming into Mentor's cities, merchants had brought their wares, and the nation looked forward to a fine future. The *Aerial* was no longer the only newspaper in Mentor. All of the cities had their own dailies, but the *Aerial* was considered the leading paper, and people looked to it to give them the real news of the world.

Mentor became less and less communistic. The dormitories had been forsaken, and men and women were beginning to establish their own homes, their children attending the city schools conducted by educationalists from America.

Ah, could only Howard Mentor see what strides had been made by that little band of refugees who had fled to South American shores!

CHAPTER ELEVEN

Into A New Land

TEN years passed and it could be seen that Mentor was soon to outgrow her boundaries. Brazil was watching jealously for one infringement on the treaty that had been made in Geneva. I saw that Patriarch Mentor, who was now nearing his sixtieth year was growing restless under the limitations of his country.

I was now very close to him, for our friendship had deepened with the years, and I knew that he was looking for Jimmy Jr. to take his place when he would succumb to old age. Jimmy had grown handsomer with the years. He topped the Patriarch by an inch in height, and his tremendous wings far surpassed those of the ruler. In walking they dragged almost two feet behind him and had a spread of over sixteen feet. He held the present record of Mentor, having flown entirely around the Earth in a little over fifteen days!

I now went to the Patriarch with the plan I had had in mind for several years. He agreed with me that in another generation Mentor would not be able to stay within her boundaries, that eventually she must seek new territories. At first he was not fired with the idea of seeking that territory in North America, but eventually I convinced him that America was the only feasible part of the world where he could hope to find succor, a country that for all its two hundred million or so of population had vast lands scarcely touched. And after hours of deliberation the Patriarch called upon his councellors to discuss the question with them. In the end it was decided to send emissaries to Washington to ask that we be allowed to come into American territory.

I shall not go into detail as to what this request brought about in the two years that followed, but it took all of that time to convince America that it was for her own good to let us in. The President and the Patriarch had many conferences on the question in Cuba where they both met, and it is needless to say that the President was fired with the thought of what it would one day mean to the United States were she to allow this strange race to become citizens of her country.

When the people of the United States were told of the decision that had been made they rose up in arms and declared they would have nothing to do with the measure and demanded that it should be given no consideration. They still recalled the number of women who had been sacrificed in Mentor, and had become angered when Mentor had refused to give them up when she had been accepted in the World Court. However, many of the women and men had been given the right to return to their own people since, and most of them had refused although they often visited their home land. Too, many of the women had given their lives in bringing into the world the winged babies.

Still the President and Congress still played with the idea of admitting the Mentorites into the country. Doctor Morris had been closeted with several renowned heads of the medical profession and had convinced them that it would be possible to breed wings on all those who expressed a wish to go through with the experiment, and already several such experiments had been made and proved successful. In Mentor there were hardly any Earthbound left, for after the birth of Jimmy Jr. they had realized that by carefully breeding, the half-developed wings of the Earthbound could be done away with and children of mixed bloods were now born with true wings

It was a memorial day when the first band of winged people came into America. There were many skirmishes in which the state militia had to be called forth. It was in one of such demonstrations that the President was killed. The murderers were discovered and punished, and henceforth the name of the Martyred President will be known to all future generations as a great fore-sighted American.

Conclusion

MENTOR of South America is still a powerful nation, but she is now undistinguishable from the winged people of the rest of the world. It would be a long story to tell how gradually the antagonism of the world against us vanished and we were admitted everywhere. And as the desire to fly spread among the people thousands upon thousands submitted themselves to the operation. So to day the whole world is winged.

In the meantime the Patriarch grows aged and weary. He is at present drawing up an outline of a type of government which he hopes his people will accept for the future. He wishes Mentor to become a republic and suggests that James Kennedy, Jr. be elected by the people as their president!

Lois, now a comely matron, has not lost any of her youthful charm, for the women of Mentor do not age easily. Their lives spent in the air, in full glare of the warm sun and with the far horizon

to remind them that life is as great as they wish to make it, are not given to sitting on their front porches and allowing the rest of the world to fly by.

Too, she has her daughters to keep her young and on her toes, for after Jimmy Jr. had come two more sons and two girls that are almost as pretty as their mother.

* * *

So ended the story as written by my ancestor. In contemporary history, I find, that not shortly after this tale was finished the secret formula of the solutions *et cetera* that had been evolved by the original Howard Mentor had been placed in the vaults of the Federal government. The obtaining of the secretions no longer necessitated the killing of birds, for chemists discovered that the ingredients could be produced synthetically.

It took several hundreds of years to bring about the complete change, and we can safely say that the world's five billion people are all the wings except perhaps a few isolated groups living in the jungles and mountains, who are now considered savages.

And it is to that Triumvirate composed of Howard Mentor of Scotland, the Patriarch of Mentor and the Martyred President that the world can send her prayer of thanks for the power that is now hers.

THE END

The Bloodless War

(*Continued from page 57*)

The Ambassador left the room with the Secretary of State. The President sighed,

"Well, that leaves Japan."

"I do not think, that we need worry about that country," replied the Secretary of War. "She has lost twenty thousand planes and her American ally. She realizes that we know just what she attempted. Her fleet was mobilizing for a cruise in the vicinity of the Philippine Islands. A great fleet of mysterious commercial vessels in the Pacific has disappeared. I have every reason to believe that she will cancel all action. We can watch her more closely than we did before and strengthen our Pacific fleet. I feel that Great Britain and France should know about this attempt. They are our friends. For the time being, the danger is over, thanks to these gentlemen."

"The country will not forget them," answered the President.

John Farrol stood up, as he said.

"Mr. President and gentlemen of the Cabinet. This has been a bloodless war. In this we have simply been fortunate. Next time there may be an entirely different story. The answer to the problem of future danger is simple . . . the United States must always be prepared. There will never be a complete surety of peace so long as men are simply animals, covered with a thin veneer of civilization. Mr. Strange and I were glad to do what we did. It was our duty as American citizens. We ask for no pay, demand no reward, but we do hope that the leaders of our nation have learned their lesson."

THE END

The Ark of the Covenant

(*Continued from page 31*)

with one of the United States oil-freighters? I wanna know what prinked-up, bullion-ornamented, lime-juice-weaned sonofagun in a skin-tight u-ni-fo'm has had the sass——!"

The rest was verbiage. I dissed the radio and looked at Dan and Lord Almeric, who were sitting side by side, open-mouthed. His lordship was the first to speak.

"Farragut, by Jove!" he said. "Piracy plus the knowledge of the twentieth century!"

(To be continued)

Beacon of Airport Seven

(*Continued from page 51*)

Steadily growing louder came the sound of a speeding air liner from the direction of the pass. While the others pleaded with the man, now feverishly adjusting his instruments, Boyer whirled to the outside door and with one tremendous yank wrenched it from its hinges.

"Out of the way," he shouted as he lunged toward the inner opening holding the door before him as a huge battering ram. The wires snapped under the impact, falling harmlessly aside and Boyer lurched into the laboratory. A reverberating pulsation announced the proximity of the multi-motored plane, driving onward toward the beacon.

The others were in the room now, led by Cavanaugh who sprang to a large switch at the end of the long table. At the instant he reached the handle a sudden piercing scream turned all eyes to the scientist who lay sprawled in an attitude of reaching across the apparatus, hand outstretched toward the inspector. As the switch was opened the little man's tense muscles relaxed and his body slumped from the table edge to the floor, inert.

"Electrocuted!" gasped Tommy, pointing to a livid scar showing plainly on an outflung arm.

A sudden quickening roar over the house top reached a higher pitch then abruptly fell again to the departing drone of a plane which has passed. Coming plainly through the still night air those in the laboratory heard the song change to an even low-voiced murmur, as throttles were closed for a safe landing.

THE END

What Is Your Knowledge of Aviation?

Test Yourself by This Questionnaire

THE questions given below are taken from the stories in this issue. They will serve, by your ability to answer them, to test yourself in your knowledge of aviation. By thus testing yourself, you will be able to fix in your mind a number of important facts of aviation that are presented by the stories.

The pages, on which the answers are given, follow each question.

1—What is the general conception of the safe way to make a landing? (Page 16).

2—What ability to maneuver has an airship over an airplane? (Page 33).

3—What is the best way to take-off when there is a wind? (Page 45).

4—What should be done in order to lose altitude? (Page 44).

5—What can a pilot do, who has misjudged his landing, when near the ground? (Page 46).

6—What would be the advantage, to air travel, of islands in the air? (Page 39).

7—How could a motorless plane get its power? (Page 44).

8—What is the effect of a tornado on a plane? (Page 69).

9—How could a tornado be made artificially? (Page 69).

10—How might one go about making a winged race? (Page 70).

11—Why might a pilot be necessary for a radio-controlled plane? (Page 58).

12—What would he do after his work was done? (Page 58).

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WHEN THE MOON FELL

By Charles H. Colladay

Collisions between celestial bodies of any size have not occurred within historical times. But such an event is not an impossibility. In fact many astronomers believe that our solar system came into being by such a collision. Suppose the moon were to crash into the earth. What would happen? In "When the Moon Fell," by Charles M. Colladay, you will find the answer.

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AVIATION NEWS OF THE MONTH

CONSTRUCTION

Huge Planes Being Built in Europe

HUGE planes are under construction in Europe at present, says Anea Bossi, president of the American Aeronautical Corporation. Mr Bossi's company will begin the construction of American editions of the Savoia Marchetti seaplanes and amphibians The Handley-Page Company, said Mr Bossi, is completing an all metal plane for fifty-five passengers, which will be used by the Imperial Airways on the London-Paris route. Dr. Dornier, in Garmany, expects to conduct tests soon of a huge twelve-engined flying boat, each engine of which is expected to develop 500 horsepower, or 6000 horsepower in all. The largest land plane in the world is the 100-passenger Junkers in which the passengers will be carried in the wings The motors are also completely enclosed in the wing sections, which at the roots has a thickness of nine feet. The propellers, it is understood, will be carried on long shafts, well ahead of the leading edge of the wing and they will be adjustable while in flight for speed at high altitudes. The motors will be equipped with superchargers. Oxygen equipment will keep the cabins at normal atmospheric pressure also, it is understood. Great secrecy, however, shrouds the actual equipment to be used.

France, said Mr Bossi, has a new fighting plane called "the J[illegible] which is reported to have shown a speed of 200 miles per hour

New Hybrid Airplane Ordered

A NEW type airplane, a combination of dirigible and heavier-than-air craft, is [illegible] says *Popular Science Monthly*. The craft will have a 430 000 cubic foot gas bag [illegible] be 130 feet long, thereby making it a full fledged airship, but it will also have a set of airplane wings which will extend from the body to help support it in flight and help in the landing It is intended for [illegible] and a two-man crew besides baggage. [illegible]

Diesel Engines for Planes

THE PACKARD MOTOR COMPANY, says *Scientific American*, has tested successfully in flight a Diesel engine, seven cylinder air cooled, developing over 200 horsepower and weighing only a trifle over three pounds per horsepower By the use of this engine the ignition and carburetion systems can be eliminated, and heavy fuels can be used that are non-inflammable in character The value of this, considering the terror of the burning plane, is very evident

The use of the Diesel engine is possible, says the article, only after many changes. The ordinary Diesel engine is low speed, and coupled with the low mean effective pressure developed, is unsuitable for airplane service. A high speed engine therefore has been developed. No spark or hot bulb is needed for combustion of the fuel for the high pressure and temperature alone will do this. That the fire hazard is much lower with the Diesel is explained by the fact that the fire point of gasoline is below zero Fahrenheit, and that of the Diesel fuel is 175 Fahrenheit.

In the Packard tests lasting over a year, in the innumerable cases where the fuel lines leaked or were broken, not a single fire occurred.

Helicopter Ready for Trial

A HELICOPTER (bird-like airplane) designed by a Brazilian workman has been completed with the aid of his government and is now ready for official trials. The problem of being able to rise vertically from the ground had occupied the inventor for some time and he had already built a machine motored by four horsepower which [illegible] tried out. The new machinery, however, is much more powerful

Four Motor Planes for Sleepers Says Lindbergh

THE large passenger air-liners of the future will probably have four motors instead of three to reduce the noise and vibration and increase the percentage of safety, said Col Lindbergh, who is acting as technical expert to the Transcontinental Air Transport. This company will operate the coast-to-coast air-rail line which, Lindbergh stated, would be put into operation this summer. "Safety in flight" was one of the reasons given for the advisability of the four motor plane, on which it is expected sleeping accommodations for passengers would be made. The sleeping service is not expected until sometime in the future, however, when planes with larger fuselages are made. In speaking of the plans for the opening of the Transcontinental Air Transport service this summer, he stressed the point that absolute safety would be the primary consideration, and no planes would be flown until everything was in perfect readiness. He visioned then a service to be as safe as travelling by rail

200-Mile-an-Hour Army Plane Expected

THE Army Air Corps is now working on an attack plane which, with full war-time load, is expected to show a speed of 200 miles per hour. This would give the plane a decided advantage over the general run of pursuit planes which develop 165 miles per hour at best. Manufacturers are now working on these planes. One, without the war-time load, is reported to have attained a speed of 218 miles per hour, but the addition of equipment will probably reduce it to about 195 miles per hour, according to Major-General James E. Techet, Chief of the Army Air Corps. The improvements have been along the line, chiefly, of reduced head resistance and increased power. The use of a new highly efficient cooling fluid has also helped in the increased speed obtained.

Helicogyre Machine Invented

THE description of his invention of the "Helicogyre" was made by V Isacco before the Royal Aeronautical Society of England. Signor Isacco has the backing of the Air Ministry and one of his machines is now being built. The "Helicogyre" is in reality a revolving wing airplane. Each of the four wings has four Bristol/Cherub motors on the wing tip, and another motor on the nose of the fuselage. The wings in this case are propelled by the motors on the tips. Each engine has its own gasoline and oil tanks so as to make it independent of the others. Ailerons to act as elevators extend along the entire trailing edge of each wing The inventor believes that if any wing failed the others would keep the plane moving and in case all the wing engines failed the nose engine would propel the machine. Signor Isacco believes that in the future jet propulsion will replace the present [illegible] According to the inventor, by his [illegible] can be lifted by one horsepower developed.

Giant Airships Planned

COINCIDENT with the plans for the building of a huge hangar for lighter-than-air craft at Akron, Ohio, for the United States Navy, comes the statement that the large aircraft of the future will be the lighter-than-air type. For with the science of this type of craft being understood there is virtually no limit to the size possible And also that the effective load possible increases proportionately with the size. With the heavier-than-air machines, however, increases in size bring increases in weight which reduce the carrying efficiency. The new hangar, which will be on rollers to compensate for temperature changes will have a ground area of 1,500,000 square feet, or equal to that of fourteen regulation football fields. In it will be constructed ships for the navy that will exceed greatly those of the past. The first craft will have a volume of 6,500,000 cubic feet and a cruising range of nearly 10,000 miles, as compared to a volume of 2,470,000 cubic feet and a range of 3,500 miles for the Los Angeles. With the building of such ships the prophets foresee that over short distances (up to 1,000 miles) the heavier-than-air planes will be used, but on long trips the giant lighter-than-air machines will operate, carrying small heavier-than-air planes which will discharge and take on passengers.

World Air Cruisers Near Completion in Britain

AFTER nearly two years of experimenting laboratory tests, etc., two lighter-than-air cruisers (dirigibles), built expressly for the British Government for long range transportation within the [illegible] are nearing completion. Work is [illegible] far enough advanced to make shed tests within a month, and final tests in three to four months. These monsters of the air which are costing about $1,250,000 each are the first of their kind built expressly for world-wide service. The backers of the project believe that these airships will be the thing of the future for long-distance transport. They are said to embody the very latest in airship design, and are built to withstand the changing temperature and atmospheric conditions they will meet in their terrestrial journeyings.

Steam-Driven Propeller-Less Airship Promised

A NEW, revolutionary lighter-than-air-airship is promised to New York during the summer by the Bryan Steam Corporation of Peru, Ind. The ship will be fueled with oil and driven by a steam turbine. It will have no propellers but a rotary blower at the nose, which by blowing the air sideways [illegible] front of the ship which pulls it along. The turbine drives the blower, and the exhaust steam from the turbine before being [illegible] densed will heat the cabin. With a driving power of 300 horsepower and a cruising speed of nearly 100 miles per hour the craft [illegible] of the [illegible] It has no interior bracing and thus is able to reduce its weight 700 pounds and increase its paying load correspondingly. Not the least among the [illegible] the [illegible] ings in the city and discharge its passengers by means of an elevator running along the anchor line.

OPERATION

Telephone Service For Airplanes

THE equipping of planes with radio-phone attachments to their radio receiving sets is allowing pilots to converse freely with the ground and thus ascertain weather conditions, to receive orders, etc. Tests made by the Boeing Air Transport has proved the practicability of this, as well as the communication between planes while in the air. Both means of communication are deemed necessary by aircraft operators to avoid collisions in the air, which will become more of a factor as the air traffic continues to grow. Radio, or at least radio-phone, control is considered to be equivalent to the railway block signal in avoiding accidents, and for this purpose Federal Radio Commission has been asked by aircraft companies for exclusive use of four short wave channels. The possibility of a person in a plane conversing with telephones in neighboring cities has also been successfully tested but no immediate use will be made of it.

New York-Argentine Air Line

A NEW air line, The Tri-Motor Safety Airway, has been organized for mail and passenger service between New York and Buenos Aires, Argentina. The trip, it is estimated will take only seven days, one third of the time now consumed by steamer. Rio de Janeiro will also be a point [illegible] The company has already been awarded, by the Argentine government, the exclusive right to carry mail from that country to the United States. The company will use for its passenger service six thirty-two passenger flying boats.

Ignition Does and Does Not Cause Fires

A BELIEF among aviators that if the ignition switch is opened before crashing the dreaded fire will be averted is founded on fact says Bradley Jones in *U. S. Air Services*. This does not mean however that the fire is caused by the exploding of gases by the electric spark caused by the ignition. A test to determine the cause of fires in crashes was made. Old airplanes were slid down a long runway and into a brick wall. Slow motion moving pictures were taken of the ensuing crash. By removing the batteries from the planes it was found that just as many fires took place as with batteries in place. What Jones concludes is that the gasoline tank being ruptured throws the gasoline against the hot pipes which ignites it. Thus the ignition is not responsible. But, he says, if the ignition is switched off before a crash the pipes will cool and no fire should occur when the gasoline is thrown against them.

New Air Thermometer Devised

A THERMOMETER by which the minimum temperature of the air thru which a plane is flying can be determined has been invented by H. B. Hendrickson of the Bureau of Standards. The instrument makes use of a bi metal strip mounted on one of the struts of the plane. It is very light, and a number of them can be used to determine temperatures at various points on the plane.

England-India Non-Stop Flight Made

ALTHOUGH the first India-England non-stop flight was made, in a Fairey Napier Monoplane by an English crew, the original purpose of the flight, the breaking of the non-stop record, failed. The record which is held by the Italians is 4,417 miles. The projected flight of the Britons from Lincolnshire, England to Bangalore was 5,300 miles. But the plane was forced down 1,170 miles short of its goal thereby completing a flight of 4,130 miles. A heavy head-wind in the Persian Gulf so reduced the plane's speed [illegible] of gasoline and had to return to the shore. The actual flight time was forty-eight hours as compared with seven and a half days which is consumed by the new air mail service. Commenting on the flight the British Air Ministry said that the results were satisfactory in view of the weather conditions, and that attempts would be made soon to better the duration record of sixty-five hours and twenty-four minutes held by Germany and the altitude record of 38,432 feet held by America. For the latter an airplane driven with a supercharged engine and men equipped with oxygen breathing apparatus and electrically heated clothing would be used.

Aviation Progress Slow Says Expert

A PROFOUND dissatisfaction with the progress made in the development of the airplane since the days of Wright's Kitty Hawk, characterized the statement of Grover Loening, aeronautical expert, in the New York *American*. Mr Loening is one of the pioneers in aviation in America, having been associated with the Wrights during their early days. Mr. Loening's indictment is directed against the exploitation of aviation as a commercial venture at the expense of the development of planes. Altho we have made great strides in the *refinement* of design in planes and in the use of the planes (development of airports, use of beacons and radio communication) we have made very little progress in the development of *new principles of airplanes*. A much greater safety and greater speeds are necessary to justify our claims to progress. What is necessary, he says, are planes capable of doing 300 miles per hour, climbing to 25,000 foot altitudes above storms and clouds, landing at lower speeds and rising more quickly; and the universal use of amphibians. Better designing of planes, improvement in engines, higher power and efficiency, and use of lighter fuels are all necessary to get 300 mile an hour planes, capable of having that speed during sustained flights. The three greatest dangers to distance flying, he said, —fuel consuming head-winds, fogs and ice-forming weather, would be avoided by the planes he advocates. Such a plane can pick its own course, outrun any storm, fly above the ice and fog, and would have a cruising range which would make unimportant small delays due to unfavorable winds. The plane, he said, should make a trans-Atlantic trip in 12 hours.

> **"Aviation News of the Month"** portrays in plain yet concise language every important aviation advance during the month. Nowhere can the average reader get such a wealth of accurate and vital information condensed into such a small volume. Some 40 aviation magazines and newspapers are utilized by our editors in the compilation of this department. The publishers welcome short contributions to these pages from the various scientific institutions, laboratories, makers and distributors of planes, etc.

Planes Protect Ontario's Timber

THE task of protecting Ontario's 100,000 square miles of timberland against fire, once quite hopeless, is now being pushed vigorously by the adoption of aircraft. Where formerly the only means of inspection was trekking wearily across the forests, or floating down the streams, now an airplane can inspect thoroly a whole district in a few hours. The aircraft is also used in making surveys of the forest land and in penetrating into possible areas where minerals in great quantities may lie.

Aerial Towing Begins

WHAT appears to be the first job of towing an airplane is recorded in *Aero Digest*. A glider was towed by a Fokker plane for over 200 miles across the Sierra Nevada. Inasmuch as it was necessary to have an altitude of 7,500 feet to navigate the peaks, the glider rose to a height few of its kind have achieved. The crossing of the mountain had already been made when the tow line broke and the glider was left to make to its own way to safety. Both planes headed toward the Los Angeles Airport, 20 miles distant. The glider weighted by the tow-line managed to get within one mile of the port before it landed in safety.

Thirty-Hour New York-Frisco Air Mail

WITH the instituting of night flying in the air-mail service between New York and San Francisco, a schedule of service has been [illegible] across the continent in less than thirty-two hours. A piece of mail leaving a city on either coast at night will arrive on the other side of the continent the morning after the following evening. This is possible by having 65% of the distance flown at night. The cities along the route, by [illegible] service in either direction. Stops will be made in fifteen cities. The route that will be [illegible] by the [illegible] is the same used by the Pony Express of the [illegible]. In [illegible] the Pony Express had a cross country service which consumed thirteen days and cost the user $5 per half ounce for mail or packages. The same letter that cost $10 then goes for 5 cents now by air mail.

Moving Plane Makes Ground Pickup

A DEVICE has been successfully tested which allows a plane to make a pickup [illegible] It may [illegible] or [illegible] The device is a catapult fitted on a special mounting which releases a car on which the load to be picked up is placed. The load is made to move at the same speed as the plane so that no jar to the under carriage will occur when the pickup is made. On a test a 33 pound sack of mail was picked up five times and a [illegible] pound passenger load once.

New Altitude Attempts Probable

RUMORS concerning new attempts to break the present altitude records by France and England, are current. It is said by *Aviation* that the English plan an all metal plane, with the engine enclosed in the fuselage and heated by its own exhaust. In this plane they hope to ascend 8 miles. The French attempt is said to be along the same line as the English.

Plane-Cooling Liquid Successful

NEWS despatches recently mentioned a mysterious liquid to cool airplane engines which has been developed by the War Department. Now the name of it is divulged as ethylene-glycol, and a report that on a standard fifty hour test, the liquid was used at an outlet temperature of 360 degrees Fahrenheit (far above the boiling point of water) and no serious adverse effects were noted. It is also revealed that this compound is not new; it has, in fact, been sold at gasoline stations as [illegible] compound. The War Department offers certain cautions however about its use as a cooling agent on planes. It recommends tighter joints and a closed cooling system. A larger expansion space, to take care of the large expansion of the liquid when hot, is also necessary. The fuel must also be treated, with some anti-knock solution to offset tendencies toward detonation.

Air Passengers Speak Over Land Phone to New York

THE first commercial apparatus for maintaining telephonic communication of a plane with the ground was successfully tested when passengers in a plane 3500 feet above Plainfield, N. J., carried on a telephone conversation with New York. To make the call the passengers called the radio station W3XN of the Bell Telephone Company at Whippany, N. J. As the receiver was cut into the circuit the operator asked the customary "Number please," and thereupon the plane was connected over long distance land lines to New York. The reception at both ends, despite the roar of the plane travelling 95 miles an hour was deemed as good as tho one were sitting in a private booth. A four tube radio set was used on the plane, three being of the screened grid and the fourth a heating tube to increase the sensitivity. The set is run from a generator attached to the motor, requiring 2 horsepower at 1,100 volts to pick up and amplify the ground messages. The sending set runs from a wind-driven generator mounted outside the cabin.

GENERAL

10,000 Planes Produced for 1929

AN estimated production of airplanes in the United States for 1929 has been put at 10,000 by F. B. Rentschler, president of the Aeronautical Chamber of Commerce. This will be twice the production of 1928 and thirty times that of 1921. The growth of the number of workers in the industry is also phenomenal rising from 8000 in 1931 to over a hundred thousand at the present time.

Air Secretary Reviews Tremendous Growth

WILLIAM P. McCRACKEN, Jr. retiring Assistant Secretary of Commerce in charge of civil aviation reviewed recently the tremendous growth of aviation in this country. He pictured an air network in which 57,515 miles were flown daily or more than 70,000,000 miles a year. One of the reasons for the great growth of commercial flying he said was the increase in lighted airways. Three years ago there were only 2,000 miles of it, with lights 25 miles apart, now there are 10,000 miles with standard lighting equipment 10 miles apart. In addition we have revolving beacons, course lights, and lights that flash the messages to flyers in Morse code. A complete chain of radio broadcasting stations serving the principal airways is expected before the end of the summer. Fifty weather gathering bureaus have been established so that flyers may know the weather almost any hour of the day for almost any part of the country. The growth of night flying for passenger and freight service is also remarked. The planes of today are provided with every comfort for passengers so that they resemble luxurious Pullmans. He calculates further [illegible] twice as many airplanes in [illegible] flew five times as much, making the increase in flying for the year tenfold.

Americans to Operate Chinese Air-Service

BY the granting of a contract by the Chinese government, the Aviation Exploration Company of New York, a subsidiary of the Curtiss Company, will carry mail for the Nanking Government. Three lines will be operated connecting four of the principal cities of China: Nanking, Peking Hangkow and Shanghai. The Americans will establish schools to train Chinese pilots, and will engage on their own account in a passenger service. The representative of the Americans, Major William Robertson is said to be the man who first discovered Lindbergh and gathered the funds to finance his trans-Atlantic hop

Sailplane Built for Soaring

AN improved type of glider called a sailplane has been built by William Bowlus of the San Diego Air Service Corps, one of the pioneers in gliding in America, which he believes will materially improve soaring performance. He describes the details of its construction in *Aviation*. The sailplane, he says, differs from a glider in that it offers less air resistance by adopting a cleanness of design; and can be kept in the air indefinitely. He believes that his machine is the first built in America. The method of reducing air resistance was by streamlining. The machine has a span of 44 feet, a weight empty of 150 pounds and an overall length of 25 feet, while the chord at the root is 5½ feet. Under test, having a weight of 305 pounds, the take-off was 32 miles per hour and the glider ratio about 20—1.

Plane Turns On Airport Lights

THE scream of a wind-driven siren controlled by a pilot 2,000 feet in the air was picked up by an "electric ear" on the hanger of the Newark, New Jersey, Airport a[illegible] of Westinghou[illegible] 24,000,000 candle power [illegible] opening of the Newark Airport. [illegible] the first practical operation of this device which, it seems, will be invaluable for aviators trying to locate their position and make a landing. Used in the operation is said to be the most sensitive tube ever developed, the Knowles, grid glow which is affected by the energy calculated to be that of a fly climbing up a wall one inch. When the apparatus is set to the frequency of the plane siren it operates only when that particular note is sounded. The tube energy is amplified sufficiently to provide the power necessary to put on the floodlights.

Night Aerial Photography Perfected

MANY photographs that we see as taken from the air are never recognized as having been made at night. Their day-light appearance is due to an invention of great aid, both to science, business and military tactics, by Lieut. Goddard of the U. S. Air Corps. The field of air photography at night was practically untouched when Goddard began work on it. He finally perfected a method of dropping a flashlight bomb from the plane and making a time exposure when the bomb exploded. The films however were blurred and dim. He finally perfected a device whereby the operation of the shutter of the camera was synchronized with the flash. The task presented of synchronizing these things, which are necessarily hundreds of feet apart, may be readily realized. Exactly how it was done, the War Department does not care to state. But the success of the method is evidence by the photographs that have been taken.

85 Pound Radio for Planes

THE problem of the control of airplanes from a central point involving the use of the radio on the planes has been worked out satisfactorily by the Pan-American Airways. The engineers of the company were given the job of installing radios in the plane, but the limitation of 100 pounds was placed on the weight. After much study the engineers designed their own set which will weigh but 85 pounds as compared with sets of 150 to 200 pounds used by the army and navy

32 Passenger Plane in Detroit Exhibit

OUTSTANDING among the 104 types of aircraft assembled in Detroit for the second All-American Aircraft Show, is a 32 passenger Fokker Plane, which is said to be the largest ever built in the United States. [illegible] the completed ship would be too large for the exhibition hall. The ships, which the Fokker Company is expecting to turn out [illegible] 525 H.P. Wright Cyclone engines. It is [illegible] spicuous about the show is the large number [illegible] manufacturers expect, within the [illegible] be owning their own planes.

Expand England-India Air Service

WE [illegible] our neighbors across the sea are doing England, with the problem of holding together her Empire, has made great strides particularly in the England-India service. Now comes the announcement of the placing of orders by the Imperial Airways, Inc., on that route for the construction of a number of 3,000 horsepower, 40 passenger planes to [illegible] Every provision will be made for the comfort of passengers, even the motors being placed on the wings where their roar will not be so [illegible]

Gliding Makes Progress

COINCIDENT with the progress in aviation is the progress being made with [illegible] ment of the glider, the experimenting with it, and testing its possibilities under all conditions, has come a new great interest. A [illegible] Inc., are building the machines, and a number of associations thruout the world formed as clubs are enthusiastically promoting the art. In America there is the American Motorless Aviation Club, foremost in the sport (for sport it is at present). The Germans having been the first to play with gliders have developed it to the highest [illegible] sturdy for the beginner. [illegible] for soaring but merely for getting off the ground and giving the pilot opportunity to use controls. Then there is a secondary or intermediate ship, a little more efficient than the first and with a greater tendency toward soaring in a breeze. The third type is meant to get up into the air and stay there. This is made for a skilled pilot. It is hoped, by those interested, that by 1930 the art will be sufficiently advanced to permit of national and international contests.

Fewer Airplanes Makes Say Ford

COMMENTING on the 104 types of airplanes exhibited at the Detroit Show, Henry Ford prophesied that this number would be materially reduced in the future by the consolidation of companies now operating independently. Drawing his analogy from the history of the automobile industry he finds that many types of craft can have their good features pooled to make designs that fill a particular need in the industry.

Rabelais Foresaw Flying

THAT Rabelais, the famous French writer of the sixteenth century, foresaw the possibility of flying and many other scientific triumphs is indicated in an excerpt from his writing as recorded by *Aero Digest*.

"Who knows" he says in part, "but that by an herb they may contrive a way for humankind to pierce into the high aerial clouds, get up into the springhead of the hail; take an inspection of the snowy sources, and shut and open, as they please, the sluices from whence proceed the floodgates of the rain; then prosecuting their aethereal voyage they may step into the lightning workhouse and shop where all the thunderbolts are forged . . . Then they will set forward to invade the territories of the Moon; whence passing thru both Mercury and Venus, the Sun will serve them for a torch to show the way from Mars to Jupiter and Saturn. We shall not then be able to resist the impetuosity of their intrusion nor put a stoppage to their entering in whatever regions, domiciles they have a mind to see, stay in, or travel thru. Some will take up their lodgings at the Ram (a celestial constellation of the zodiac) others at the Bull (another constellation) some at the Balance, some at the Scorpion, etc. . . .

Says the *Digest*, "we have achieved much in aeronautics without the new herb but [illegible] of an aerial itinerary which will keep the industry on its toes to complete.'

Weather Report System Improved

A NEW weather report system for aviation was put into effect by the Weather Bureau which is designed to materially improve the service rendered. Forecasts of weather and wind at various levels are issued twice every day at noon and midnight to cover the ensuing twelve hours. Forecasts are issued for each of fourteen zones into which the country is divided.

Glider Thrives on Storms

WHERE the storm is a fearful thing to an aviator, to the glider it is source of power, says Dr. Wolfgang Klemperer, glider expert who is now in America to encourage the art. Operated without a motor the glider depends on air currents to carry the craft upward. A storm will provoke vertical air currents, which the skilful glider can use to carry him to altitudes of 1,000 feet or upward. It is only the calm air that keeps the glider on the ground said Dr. Klemperer.

Flight to Mars in Rocket Planned

A FLIGHT to Mars, to take only five minutes is the plan of an Evansville, Indiana, high school professor according to the Akron (Ohio) *Times*. The craft which is on the rocket principle will look like a radio loop aerial. It would take its energy from space, using no known fuel and it will acquire a speed of 186,000 miles a second, equal to that of light itself. The inventor claims he will be able to rise vertically and descend vertically. The motor at the top [illegible] that it will be upright no matter [illegible] angle the craft rises or takes. When the machine gets halfway out to Mars it will pass from the earth's gravitational field and be pulled toward Mars. Then it will gradually swing around and manage to land on Mars right side up. Oxygen tanks will be carried so that the 100 passengers contemplated can explore the mysterious planet. The difficulties encountered in outer space where there is only ether and no air would be surmounted, the inventer believes, by having power radioed to him.

(The fallacies of this idea are of course, evident to anyone. By the Einstein theory a body travelling at 186,000 miles a second would have its length reduced to zero. Furthermore, the Heaviside layer, existing about 100 miles above the earth's surface, would bar the passage of radio waves, except those of very short wave lengths. These are just a few of the more glaring fallacies. —Editor.)

(Continued on page 94)

THE READER AIRS HIS VIEWS

In [illegible] After all, this is your magazine and it is edited for you. If we fall down on the choice of our stories, or if the editorial board slips up occasionally, it is up to you to voice your opinion. It makes no difference whether your letter is complimentary, critical, or whether it contains a good old-fashioned brick-bat.

All of your letters, as much as space will allow, will be published here for the benefit of all. Due to the large influx of mail, no communications to this department are answered individually unless 25c in stamps to cover time and postage is remitted.

Up in the Air

Editor AIR WONDER STORIES.

Inasmuch as you are going to publish a new magazine devoted to stories of the air, perhaps you can enlighten, through your columns, the great number of people who are bewildered by the rapid changes that [illegible] myself at sea when I try to orient myself and know whither we are drifting. I [illegible] feat I am very much interested in your [illegible] than justify itself if it succeeds in helping out those who, like myself, find themselves aeronautically speaking, "Up in the air" [illegible] turn postage for any descriptive matter you [illegible]

BURT KANE
Portland, Me.

(AVIATION NEWS is the answer to those who are "up in the air" about what is going on in the industry. All the latest aviation achievements of the men, the machines and the airports will be written about each month to keep our readers thoroughly informed. Further, there will be additional columns from time to time of other matters [illegible] AIR WONDER STORIES. This magazine will be like no other air magazine in print, and we hope it will be much better than any. We would appreciate Mr. Kane's criticisms and suggestions as to how to improve it.—Ed.)

A Retired Business Man Speaks

Editor AIR WONDER STORIES

I have just been perusing your most estimable magazine SCIENCE WONDER STORIES, and your notice about a new magazine of aviation fiction comes to mind. [illegible] to indulge my fancy, I have spent a good deal of time in rather extensive reading. I must say that I like your SCIENCE WONDER STORIES very much and if [illegible] new magazine approaches it in interest, entertainment and instruction you can certainly count me among your readers. Through the press of business cares, I have lost touch so much with the world and found to my surprise that your pages of science news gave me an admirable glimpse into the great number of scientific achievements. I have not my copy of SCIENCE WONDER STORIES before me at this moment [illegible] News. If you can see your way clear, I would suggest that you do so. As a further suggestion which I hope you will not find presumptous, why don't you give a little explanation, somewhere, of the principles of aviation with notes concerning some of the problems of the industry. As I look back [illegible] in the past ten years, I can well imagine a glorious future for it. If you have delved into this future your readers, which I am sure will be many, would like to know something of it.

MORRIS GLASSBERG,
Bronx, N. Y.

(The AVIATION NEWS which Mr. Glassberg has doubtlessly read, has been incorporated. There is under consideration, at present, some plans similar to his ideas expressed here. We are in accord with his belief regarding the glorious future in store for aviation. And our authors limited only by scientific truth and their vivid imaginations are pearing ahead to try to discover what that future is. We have adopted as the watchword for AIR WONDER STORIES a phrase what we believe to be true "*The future of aviation springs from the imagination.*" And we believe it will be the writers such as will write for AIR WONDER STORIES, who will discover that future.—*Editor*).

From an Embryo Aviator

Editor AIR WONDER STORIES

I am what you would call an embryo aviator and I am interested in everything pertaining to aviation. Since I first flew, I've been more and more thrilled with what [illegible] I've been [illegible] you this to let you know that I am very critical of anything that is said in the name of aviation, for as you probably note there is a lot that has been said about it by people that don't know what they are talking about. If you can contribute something new or interesting, you should find a ready field, but if you are just going to follow the crowd, you'd better not waste your time. Having heard much about you, I am optimistic of what you can do. In other words I await your first issue with an open and critical mind.

WILLIAM KENDALL,
New York, N. Y.

(We would be very happy to know what Mr. Kendall thinks of the first issue of AIR WONDER STORIES. We can appreciate his feelings about what must be his hobby and even more than that. It is our aim to print the best aviation stories of the future that can be obtained, and also the "Aviation news of the month," written in an interesting and "newsy" style. And from time to time, as the need for it grows, we will add columns that will not only serve as a source of information and instruction but also of immense entertainment.—*Editor*).

A Challenge

Editor AIR WONDER STORIES

I have seen the notice of your AIR WONDER STORIES about to appear and would like further information about it as I am very much interested. I understand from a friend also that you will have some "News" items of aviation in it and other things. I am rather sceptical about how a fiction magazine can go off into technical sidelines about which it knows little. I am only interested in the fiction side, as I believe that real stories of the air that are well written can beat anything I ever read. Aviation is doing wonders for the world, and stories built about these wonders must just be great. So I am anxiously awaiting the first issue. But be careful how you branch off into aeronautics, you might lose your "rep."

FRANK PARSONS.
Providence, R. I.

(Mr. Parson's frank advice has been well-considered and for the most part we can agree with him. Many ill equipped people have gone into aviation pretending to know it all, and they have only succeeded in making themselves ridiculous. We cannot know it all. And for that reason we have as associate editors, some of the leading aeronautical authorities in the country, who will advise us not only on the manuscripts that are submitted to us but also on other aviation matters. With the support of such men, and with their wide knowledge and experience, we hope to have some non-fiction material that will prove of interest and value to all our readers. But the magazine is primarily of fiction stories of the "wonders of aviation—those that are and those that are to come."—*Editor*).

Doesn't Want to Be Cheated

Editor AIR WONDER STORIES.

As a subscriber to SCIENCE WONDER STORIES I would like to subscribe also to your new aviation magazine. I don't want to be cheated out of any of the magazines or stories you put out. Will you please send me all the necessary material so that I can receive the first issue? I must compliment you on SCIENCE WONDER STORIES and if the new paper is as good you can count me in with you, and my friends also. We have just aroused a real interest in aviation and we count on your capable editing of the magazine to help us to understand the art or industry of flying and get a lot of enjoyment from the stories. Could you also recommend through your columns or otherwise some good books on aviation; how the machines fly the construction of the various types and how the pilots operate the machines? Some books that are not too technical but yet explain things in a satisfactory manner. I know that I and my friends would appreciate this very much. Meanwhile all my best wishes are yours for the success of AIR WONDER STORIES.

WESLEY BROWN,
Omaha, Neb.

(We believe that thru the wonderful stories the "Aviation News" pages, book reviews and other material which will be added, Mr. Brown and his friends will find that they can get a fine background of knowledge of the remarkable field of aviation. Any specific questions that they have we will be very glad to answer. Our staff of aeronautical experts are professors of aeronautics in leading universities, men whose knowledge of the subject is unques[illegible])

Aviation Will Cause Radical Changes

Editor AIR WONDER STORIES

I understand you are putting out a new magazine to be called AIR WONDER STORIES. That sounds like very interesting news especially if it is going to be different from the air magazines that are now on the market. I have read most of them and am now ready for a real good one after the fashion of your SCIENCE WONDER STORIES. However, I don't understand what sort of stories it is going to carry. Are they going to be stories of the present or of the future? And are you going to run some pages of science or aviation news? I certainly hope you will, for it is hard for a busy person who wants to keep up with all that is going on, to do so. I have always had a great interest in aeronautics and it seems to me that it is going to cause some radical changes in the world, the same as most scientific advances have. I would appreciate an early answer letting me know just what your plans are, for I surely am interested in the announcement I saw in the first issue of SCIENCE WONDER STORIES.

JOHN FARRAND,
Cleveland, O.

(AIR WONDER STORIES is designed to fill a real need for stories picturing aviation of the future. It aims to be an organ not only for entertainment, but also as Mr Farrand says, to enable a busy person to keep abreast of the industry. The pages of Aviation News are experimental but if the reception it receives is similar to that accorded SCIENCE NEWS in SCIENCE WONDER STORIES then we predict it will be a huge success. We hope that what is contained in [illegible] issue answers Mr. Farrand's [illegible] We would say, futhermore, that many other additions are under consideration to make the magazine a real source of education. We invite Mr. Farrand's criticism of this issue. —*Editor*)

Leary About Air Magazines

Editor AIR WONDER STORIES

A friend of mine tells me that you are going to get out a new aviation magazine. How? When? Why? and Where? I suppose you know that there are already a lot of aviation magazines out, but I suppose yours will be different, at least I hope it is. There is always a question I wondered about aeronautics and perhaps you can answer it for me. I hear a lot about motorless airplanes called "Gliders." Just how do they run? Are they really without motors or is there something phoney about it? I hope you can find time to answer this for me. I am sort of leary about most air magazines so I am waiting until yours comes out to see what it is going to be

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like. Also if it is too much trouble for you, could you tell me on what principle the Helicopter works. I have seen a lot about them too in the papers and would like to know if they are really on the principle of birds. I would appreciate very much a hearing from you about these questions and also some news about your new magazine.

MILTON YOST
[illegible] Mi

The first issue of AIR W[illegible] is out. [illegible] Mr. Y[illegible] [illegible] of the glider? The glider is generally shot off the ground from a catapult which works on the principle of a sling-shot. They are really without motors and depend on upward currents of air to keep them aloft once they are in the air. The helicopter aims by having rotating wings to get power to lift it vertically from the ground and allow it to descend the same way.—*Editor*)

AVIATION NEWS

OPERATION (*Cont.*)

New Cooling Fluid For Airplanes

A NEW cooling fluid for water-cooled airplane engines has been developed by the Army Air Corps which they declare will revolutionize the operation of all aircraft which uses it. Composed of a number of chemicals whose nature the War Department has not divulged, the fluid is said to be vastly more efficient than water. Only 4½ gallons of it are required to do the work of 38 gallons of water. This means a saving in weight of 84 pounds. The reduction in the amount of fluid allows a corresponding reduction in the size of radiator required, which means a further saving of 40 pounds. Furthermore the reduction in the size of the radiator means a reduction in its resistance, and as the resistance of the radiator is often 10% of the total resistance of the craft, the saving is apparent. Having a much higher boiling point than water the fluid will also permit operation of the craft over a much greater speed for a longer time. With a saving in weight of 100 pounds and a greater range in operation of planes the fluid is expected to do wonders to advance the cause of aviation. Some inkling of the nature of the fluid is expected to be divulged by the War Department shortly.

New Aviation Light-Beam

THE use of a rotating beam of light, half red and half white, to guide aviators to the landing field is now in use in the Cleveland Municipal Airport says *Science*. By this rotation, the beam will be seen by the aviator no matter from what angle he approaches the field. The use of the multi-colored beam will enable him to distinguish it.

Auxiliary Plane to Aid Take-Off

THE problem of the "take-off," especially of heavily loaded planes, which has dogged the aircraft industry from the start is said to be solved by an invention of Dr. Henry Junkers, famous German expert. He makes use of an auxiliary plane to get the heavily loaded one into the air, when it can then operate under its own power. The plane to be started is placed on a platform built on the auxiliary. The motors of both planes are started and their combined power lifts them both into the air, where at a predetermined altitude they part company. The use of blocking keeps the planes together until they are ready to separate.

Tail Spin Causes Most Crashes

THAT the tail spin is the principal cause of air catastrophes and has accounted for more fatalities in the Navy and Marine Corps than any other cause, was divulged by Secretary of the Navy Adams. During the last five years, he said, tail spins accounted for one-third of the 150 fatalities that occurred in the aviation of the Navy and Marine Corps. In order to use a preventative for the tail spin which occurs principally at the time of a stall, the Navy Department is experimenting with the Handley-Page slotted wing which is said to have so much success in England. Other efforts toward safety include the use of the parachute, the development of more efficient aerological service, more frequent flight inspection reports, and better training.

Airplane Tracks Rum-Runner

THE use of airplanes to bring rum from Canada into the United States has been well known. Now the customs authorities of Canada reversed the procedure by using a plane to track down a rum runner. Word was received at Quebec that a runner was making a landing at Shelter Bay on the south shore of the St. Lawrence. Unable to obtain a boat to make the trip, the customs men chartered a plane and flew there. Although the rum barge had already departed, the customs men found the liquor and seized it. Then by the aid of the signal service the movements of the barge were traced and it was finally apprehended.

Air Becoming Safe, Says Lindbergh

THE perils of the air are becoming a thing of the past said Col. Lindbergh before a Congressional committee. Safe air transportation between this country and South America will become a reality in a year or two, he declared, with planes flying directly between Washington or New York to Rio de Janeiro and Buenos Aires. Pilots will soon be able to land without seeing the ground by the aid of interesting radio beacons and the use of some [illegible] other devices he believes will overcome difficulties of smoke or fog. He advocates the building of an airport in Washington, that should be a mile square, with a special concrete runway, repair shops and a passenger terminal. He stressed particularly the necessity of hard surfaces at landing fields, being reminded of his own experience of being stuck in the mud at Bolling Field in Washington. He believed also that the helicopter is a thing for the distant future, there being no present way to develop one economically.

Safety Slot Keeps Planes Stabilized

THE inability of pilots to keep their planes on an even keel when the engine stalled has resulted in the loss of many lives. The result was the using of a safety slot which enabled the machine to [illegible] even tho it stood [illegible] pa[illegible] But tho this was a safety device for inexperienced pilots, it took the plane somewhat out of the control of the pilot and for war purposes constituted a serious handicap. Now by a new device of the Handley Page Company of England an interceptor has been placed on the plane which gives the control back to the pilot. The British Government has paid the Handley Page Company $500,000 for the use of [illegible] interceptor slot, indicating that they are apparently satisfied with it.

Plane Used to Explore Canadian Wilderness

A PARTY of exploration has been started, to cover 7000 miles of the Hudson Bay region of Canada, on a trip after the modern fashion. Penetrating a land which has been closed to man except for a few months of the year the explorers will search for precious metals, water power sites, and will [illegible] incentive to the search has been furnished by the discoveries of gold in this region, by men working on the old Hudson Bay Railroad. Two planes will be used in the survey, provided by radio communication with each other and with their base. By the use of skis instead of landing wheels the planes will be enabled to land on the snow or on lakes or rivers.

AVIATORS

"Caterpillar Club" Now Has 120 Members

THE present membership of the Caterpillar Club, composed of aviators who found it necessary to jump from their plane by parachute to save their lives, now numbers 150 men. This was divulged by Capt. Falk Harmel, of the Army Air Corps Reserve who is unofficial historian of the Club. Col. Lindbergh, by virtue of four such dives from his plane, has earned the title of "Noble Caliph, Grand Visier and High Mogul." Among the members is one who jumped at an altitude of 7,500 feet, and another who at 34,000 feet became unconscious and recovered when the plane was only 9,000 feet from the ground. Moving earthward at a terrific velocity he was forced to jump when only 900 feet from the ground when fire occurred in the engine cockpit.

New Flying School Regulations

NEW regulations for flying schools that wish to obtain Department of Commerce licenses or approvals have been completed. The obtaining of the ratings or approvals by the flying school is voluntary, but the Commerce Department believes that reputable schools will wish to obtain them and thus weed out those who cannot and will not comply with the regulations. Schools are divided into three classes; private, limited commercial and transport, the regulations for training and equipment becoming progressively stiffer from private to transport. Students of the first must have ten hours of dual instruction and eight hours of solo flying. Credit may be obtained, however, for "check" flying or that with the instructor in the plane with the student. Limited commercial students must have at least fifty hours of flying time of which fifteen or twenty hours may be "check" aviation.
time. Transport students must have at least 200 hours of which 35 to 50 hours may be "checked." Students in limited commercial and transport must also have experience in other planes than the one used for instruction, notably in cabin planes. Students must also have a minimum number of hours of ground instruction on air commerce, airplane construction, navigation and meteorology. With the new regulations the Department hopes to make a great stride forward in increasing the safety in

Warns Aviators of Stalling

A DEVICE to warn an aviator that his plane is approaching a speed where a stall is probable has been invented by R. A. McLean of the Ottawa (Canada) Flying Club. A note of warning is sounded into the ears of the pilot by special earphones which he wears. An air speed indicator on the wing strut is attached electrically to a small electrical device which causes a buzz when the speed falls to a dangerous point.

Nine Million Miles With 102 Forced Landings

IN order to determine how effective their motors were in use, the Wright Aeronautical Corporation sent questionnaires to users of their Whirlwind motors. In response they learned that 302 pilots had flown over nine million miles or thirty-eight times the distance to the moon, with only 102 landings due to engine trouble. This was an average of one landing every 91,000 miles or every 912 hours of flying. Seventy-one of the pilots reported one or more landings to each 27,293 hours of running. The record of the other 231 pilots showed 65,687 hours of flight without a single landing due to motor trouble.

New Atlantic West-East Hop

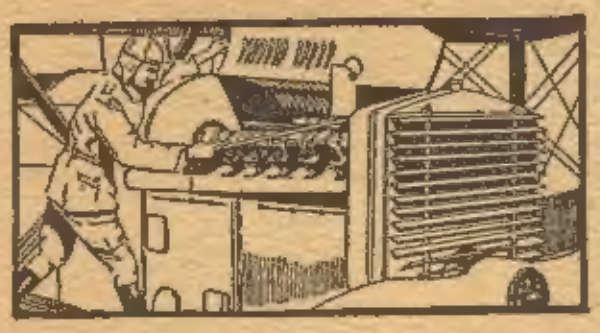
A NEW effort to successfully hop the Atlantic on the west-east route will be made this summer by two or three Frenchmen. The pilot will be Jean Assolant, a former French Army pilot, and he will have with him a mechanic and possibly Armand Lotlit the owner of the plane.

Army Seeks Fliers for One Year

IN order to keep up with its air expansion program the Air Corps of the United States Army is seeking civilian and army reserve fliers to accept a commission in the Air Corps and serve for one year. Qualified commercial transport pilots will receive commissions in the Air Corps reserve and will then be ordered to active service for one year. No reserve officer higher than the grade of second lieutenant will be ordered to active duty but those above that grade may resign and be reappointed as second lieutenants if they wish active service.

Story of Airmen's Death on Plane

THE dramatic story of the death of two airmen who had disappeared while on a hunt for the missing Southern Cross was revealed when the bodies of the men were found beside their plane in the interior of Australia. The men, Robert Hitchcock and Lieutenant Keith Anderson, had evidently been forced down on the rough terrain, and died of thirst several days later altho the rescuers found water several miles away. The story of their struggles to keep alive had been scratched by one of them on the rudder of the plane. In view of the distance of the place where the bodies were found, from civilization, the rescue party was unable to return the bodies, but had to bury them there.



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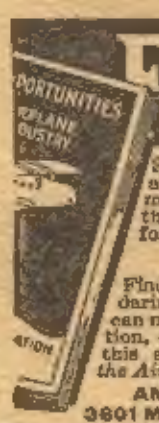

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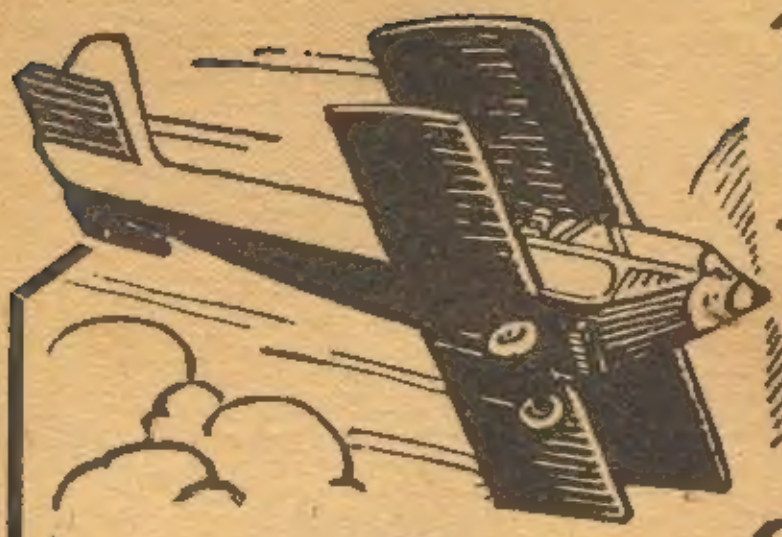

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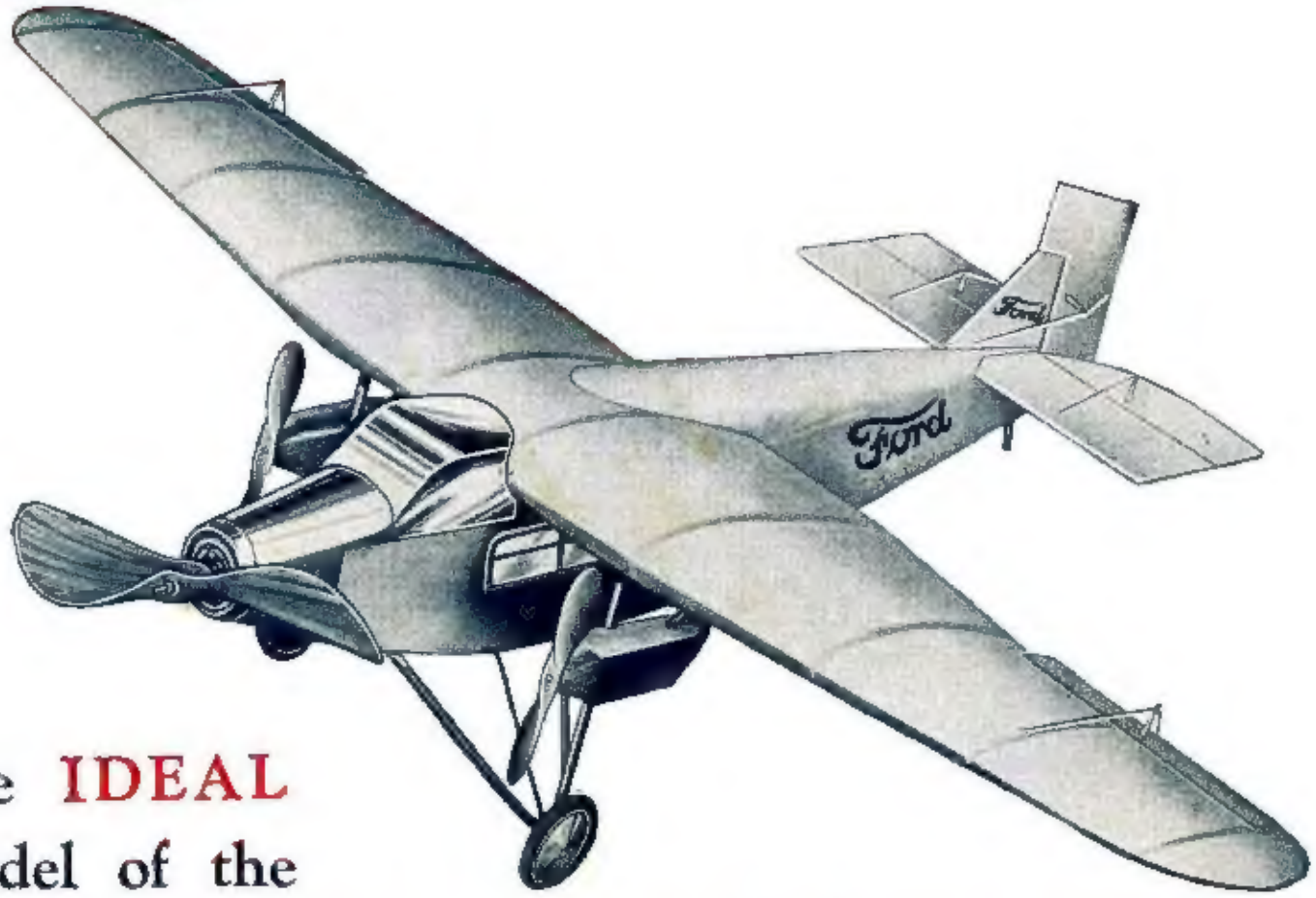

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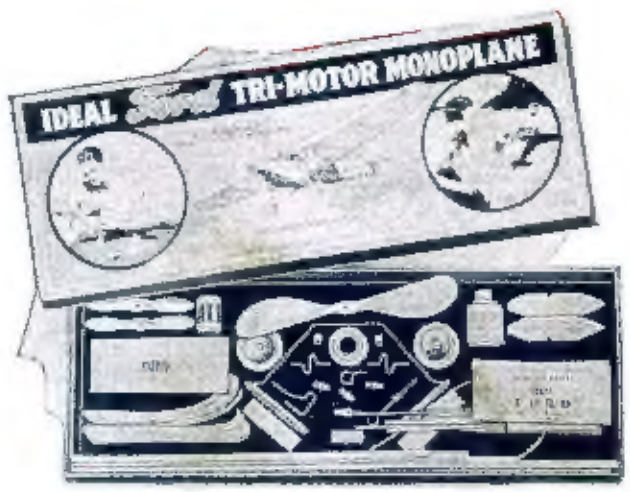

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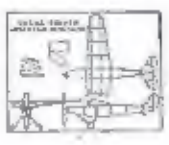

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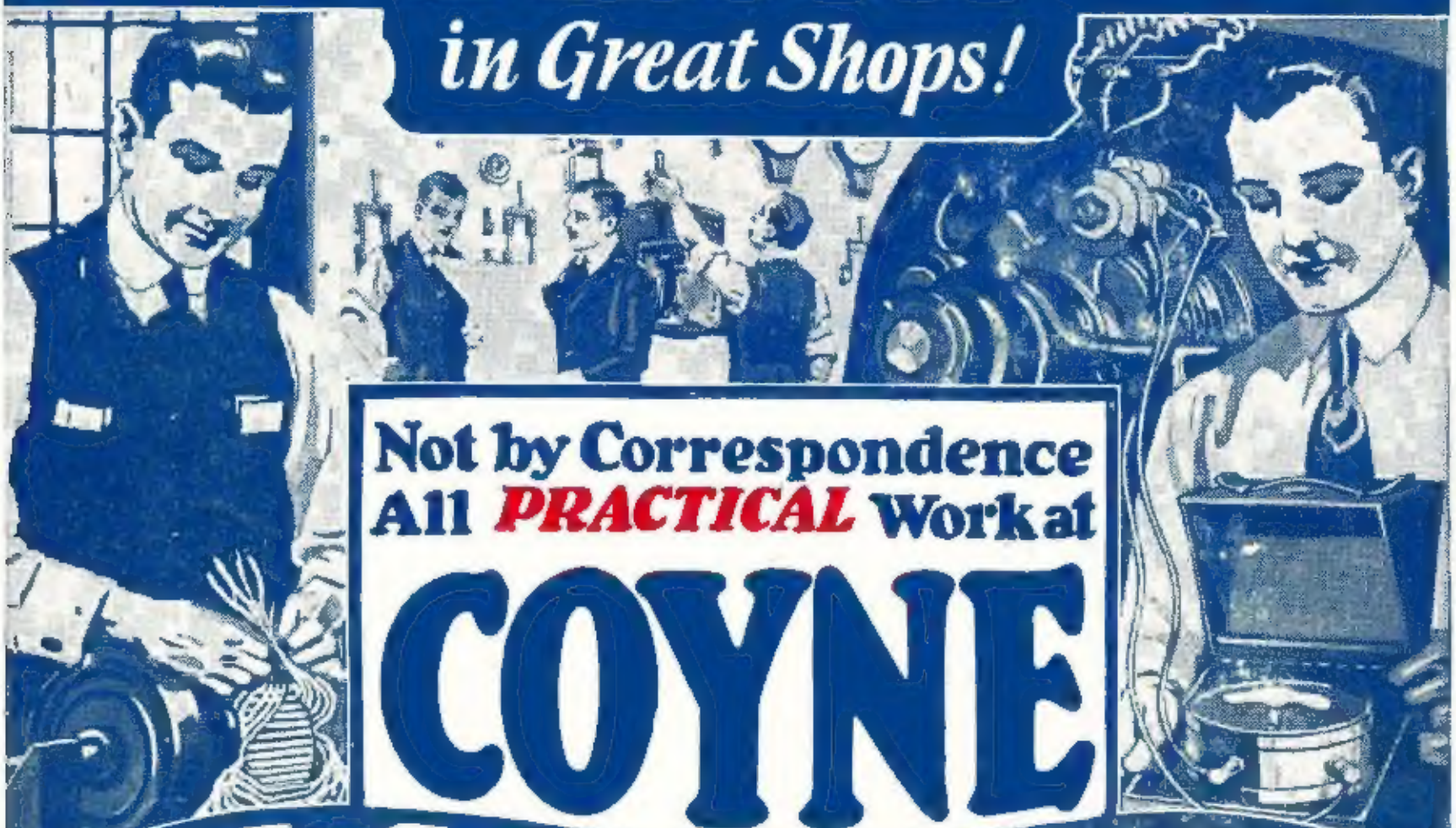

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